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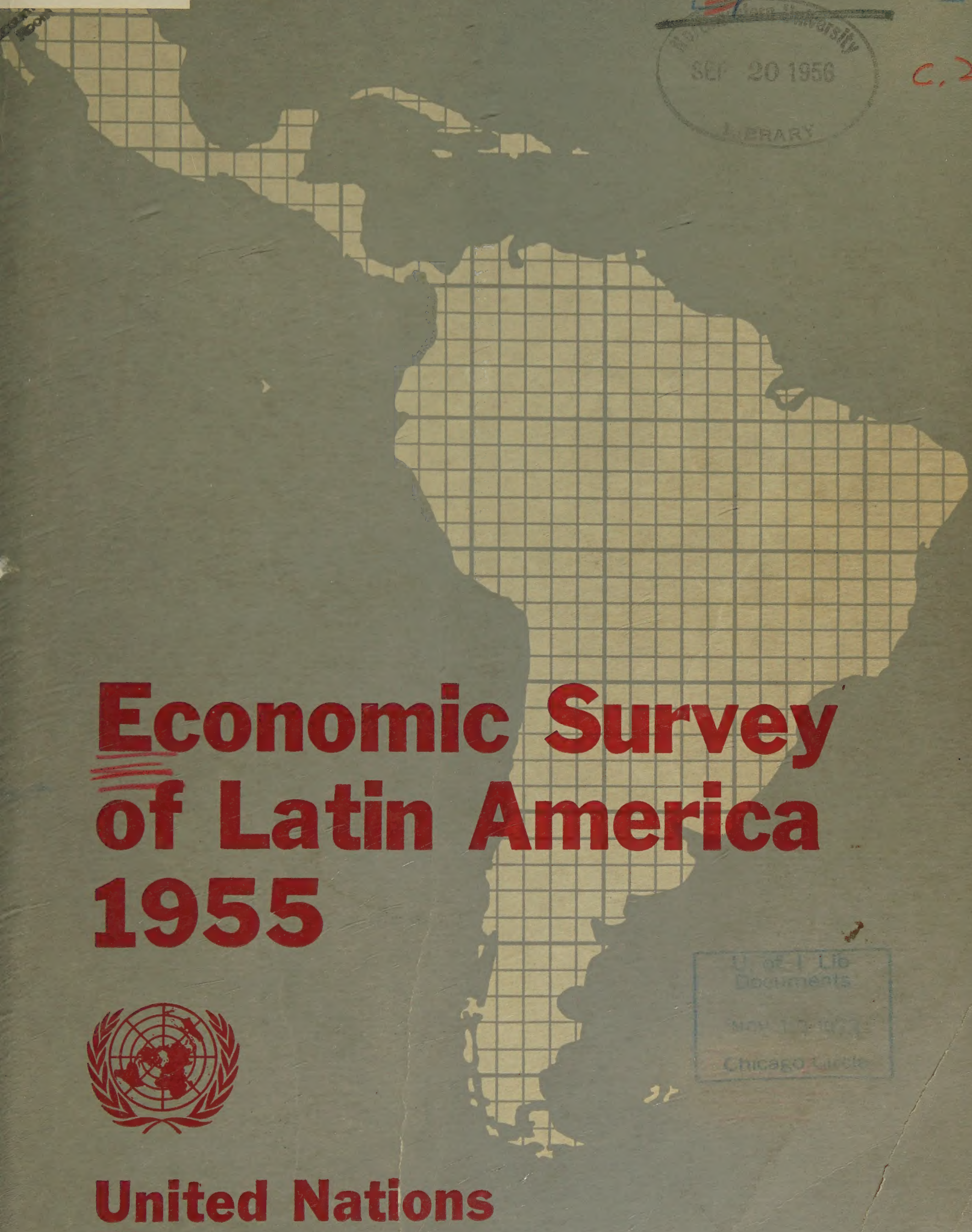

Economic Survey of Latin America 1955

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ECONOMIC SURVEY
OF
LATIN AMERICA
1955

including an essay on

GOVERNMENT INCOME AND EXPENDITURE
1947-1954

Prepared by the secretariat
of the Economic Commission for Latin America

UNITED NATIONS
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EXPLANATION OF SYMBOLS

The following symbols have been used throughout this *Survey*:

Three dots (...) indicate that data are not available or are not separately reported

A dash (—) indicates that the amount is nil or negligible

A minus sign (–) indicates a deficit or decrease

A full stop (.) is used to indicate decimals

A comma (,) is used to distinguish thousands and millions

A slash (/) indicates a crop year or fiscal year, e.g., 1954/55

Use of a hyphen (-) between dates representing years, e.g., 1950-1954, normally signifies an annual average for the calendar years involved, including the beginning and end years. "To" between the years indicates the full period, e.g., 1950 to 1954 means 1950 to 1954, inclusive

References to "tons" indicate metric tons, and to "dollars" United States dollars, unless otherwise stated

The term "billion" signifies a thousand million

Details and percentages in tables do not necessarily add to totals, because of rounding

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IMPORTANT NOTE

Many of the figures for 1955 should be considered purely provisional and subject to corrections which in some cases may be of considerable significance. The figures for the gross product and its components used in chapter I, Part I differ from the estimates contained in previous surveys. These discrepancies are due to the fact that new and revised statistics have been received from the countries concerned. The modifications relating to Argentina and Brazil are particularly important.

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Part I

ECONOMIC TRENDS IN LATIN AMERICA DURING 1955

Chapter I

ECONOMIC DEVELOPMENT TRENDS IN LATIN AMERICA

I. GENERAL TRENDS

1. Rate of growth

The recovery in per capita gross income which had set in during the previous year continued in 1955 with an increment of 1.1 per cent. In order to assess the significance of this increase, it should be recalled that, after two years of depression, per capita income had risen by 5 per cent as a result of the vigorous reaction that took place in 1954. The 1.1 per cent expansion achieved in 1955, although comparing unfavourably with the initial impulse that preceded it, shows that the recovery persisted and represented a cumulative annual rate of about 3 per cent in relation to 1953. (See tables 1 and 2, and figure I). In 1955, the absolute level of total income was thus 48 billion dollars at 1950 prices.

Table 1. Latin America: Growth in 1945-55

(Billions of dollars at 1950 prices)

			Available goods and services			
					As a percentage of the total	
Year	*Gross product*	*Gross income*	*Consumption*	*Investment*	*Consumption*	*Investment*[a]
1945	29.8	26.8	22.7	3.6	86.2	13.8
1946	32.2	30.1	24.5	5.0	83.1	16.9
1947	34.0	32.2	26.5	6.7	79.8	20.2
1948	36.1	34.3	27.5	7.3	78.9	21.1
1949	37.2	35.6	29.4	6.5	81.9	18.1
1950	39.0	38.3	31.4	6.4	83.0	17.0
1951	41.1	40.6	33.9	7.5	81.9	18.1
1952	42.2	41.1	34.3	8.0	81.2	18.8
1953	43.2	42.3	35.0	7.1	83.1	16.9
1954	45.9	45.6	37.6	8.2	82.1	17.9
1955	48.2	47.2	39.4	8.3	82.6	17.4

Sources: See appendix to this chapter.

[a] Includes changes in inventories.

Table 2. Latin America: Annual rates of per capita growth, 1945-55

(Percentages)

	1945-55	*1945-51*	*1952-53*	*1954-55*	*1955*
Gross product	2.4	3.0	0.0	3.3	2.7
Gross income	3.4	4.7	—0.6	3.2	1.1
Available goods and services	3.6	5.3	—1.7	3.9	1.6
Consumption	3.1	4.4	—0.9	3.3	1.8
Total investment	6.3	10.3	—5.0	5.8	0.8
Investment in fixed capital	5.0	8.0	—2.0	2.5	0.5

Sources: See appendix to this chapter.

These statements are supported by the fact that some of the features characterizing the years of income recovery could be observed in 1955. The influence of the external sector followed much the same lines as in the preceding year, except that it was exerted through the volume of goods and services exported rather than through the terms of trade. The latter, though similar to those prevailing in 1950 when prices were high, deteriorated in 1955; but this development was offset by an increase in exports, thanks to which Latin America as a whole was able to maintain its supplies of imported goods, without as a rule incurring undue pressure on the balance of payments. Only four countries showed acute disequilibria in their foreign accounts.

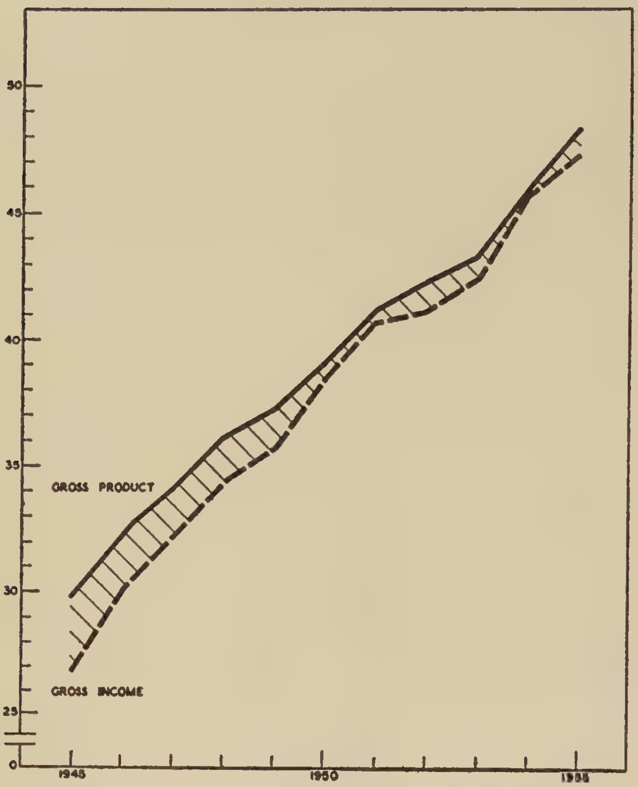
But the region's over-all recovery obscures the disparities to be noted in some of the larger countries. In Argentina, income has pursued a slow upward trend since 1953, but has not yet regained the per capita levels of 1950 and 1951. For Brazil, the year 1955 represented a pause in the rapid process of growth registered during the immediate past. Per capita income in Colombia contracted. In Mexico, there was a continuance of the intensive economic development that had succeeded a temporary interrup-

Figure I

LATIN AMERICA: GROSS PRODUCT AND GROSS INCOME

(Billions of dollars at 1950 prices)

Natural scale



tion in 1953, and the same was true of Venezuela. Similarly, Chile witnessed a reaction from the decline suffered by per capita gross income in 1954; while in Cuba, income figures, though not as low as in 1953 and 1954, remained far below their 1952 level. (See table 3.)

Table 3. Latin America: Annual rates of growth of per capita gross income in selected countries, 1945-55

(Percentages)

Countries	*1945-55*	*1954*	*1955*
Latin America	3.4	5.0	1.1
Argentina	1.7	1.5	1.8
Brazil	3.8	8.0	0.7
Chile	2.0	0.1	2.1
Colombia	4.5	10.2	—3.9
Cuba[a]	—0.5	—2.2	2.8
Mexico	2.5	4.5	7.6
Venezuela[a]	4.0	6.3	3.1

Sources: See appendix to this chapter.

[a] 1947-1955.

2. External demand, aggregate demand and the rate of growth

As already pointed out, the general movement towards recovery is linked with the behaviour of the external sector. Its principal determinant in 1954 was the improvement in the terms of trade, which not only raised the level of aggregate demand in the Latin American economy, but at the same time, in conjunction with the higher imports, caused gross income and available services to expand more rapidly than the gross product. (See again table 1.) This exemplified the typical process whereby the terms of trade effect, when favourable, impinge upon the internal economies of the Latin American countries and pervade every aspect of their economic life.

In 1955, the behaviour of the external sector produced similar results, but the roles of its essential components altered. Although the terms of trade remained very close to the 1950 level, their influence determined a loss of income in relation to the preceding year. On the other hand, this loss was fully offset by the larger volume of goods and services exported.

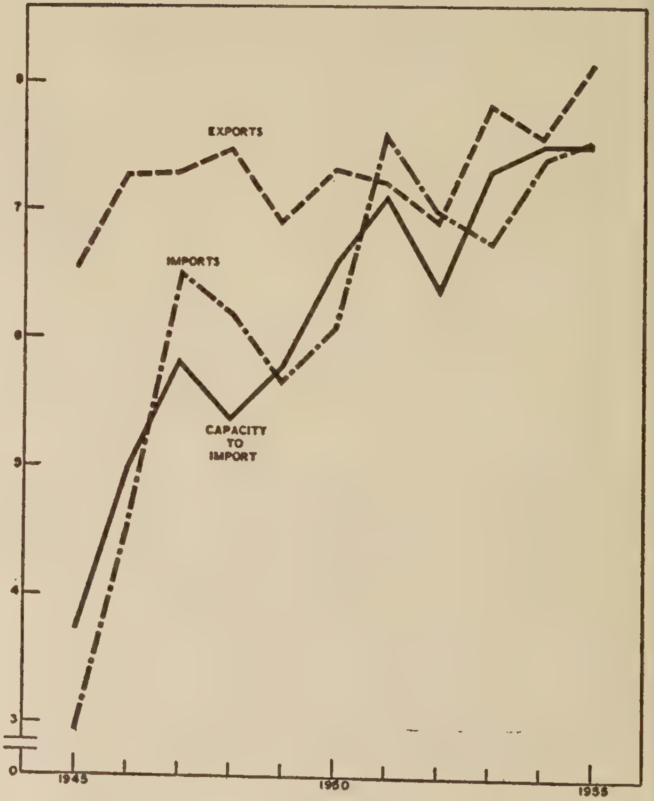
External demand therefore remained the principal factor in the recovery and promoted intensive activity in export sectors, which led to an increase in their gross product. The maintenance of income and demand in these sectors redounded to the benefit of those producing for the domestic market, as well as to that of total demand. (See figure II.)

Figure II

LATIN AMERICA: EXPORTS, IMPORTS AND THE CAPACITY TO IMPORT

(Billions of dollars at 1950 prices)

Natural scale



It was in this way that the external sector influenced e region's economic life in 1955. The difference between e incentives it provided in 1954 and 1955, respectively, ust now be examined. In both cases, it was responsible r a high level of internal activity and an increment in er capita income. But while in 1954 the incentives and ains deriving from the favourable terms of trade did not ive rise to additional productive efforts channelled toards the world market, the expansion of sales in 1955 eant that more resources were absorbed by export secors and that both the rate of growth of per capita gross come and the capacity to import were thus maintained. other words, in 1955 the economy of Latin America s a whole had to resort to heavier exports without chieving much more than a preservation of the *status uo.*

Developments in 1955 represented a weak reaction om the downward trend followed by the export coeffiient in previous years. Although this coefficient still reained only a little more than 16 per cent of the gross roduct, and was far from regaining its high post-war evel, the year 1955 was characterized by an almost uniersal anxiety to encourage exports, which, in absolute erms, attained their peak volume. It is generally agreed hat a permanent increase in the capacity to import can etter be achieved by this means than by complete deendence upon so uncertain and hazardous a process as n improvement in the terms of trade. It must be borne n mind, however, that the degree to which Latin Ameria's exports can be absorbed by the world market is deermined in the case of raw materials by the state of conomic activity in the more highly-developed countries and, in that of foodstuffs, by the low income-elasticity of world demand.

3. THE CAPACITY TO IMPORT AND THE BALANCE OF PAYMENTS

Latin America frequently encounters the difficulty that its aggregate capacity for external payment is insufficient to finance imports and the servicing of foreign capital. The propensity to import is very marked, both on account of the urgent need to purchase capital goods, raw materials and fuels on the world market and because of the high income-elasticity of demand for manufactured consumer goods, particularly those of a durable nature. Over the short term, these circumstances tend to impose a certain degree of rigidity on imports, sustaining them for some time at a high level even when the terms of trade are deteriorating and there is a consequent contraction of the capacity to import. Among the factors determining the extent of the resultant disequilibrium in the balance of payments is the evolution of the export volume. Its considerable expansion in 1955 almost entirely offset the trend towards an imbalance.

The terms of trade deteriorated in 1955 by 7 per cent in relation to the preceding year, the result being a loss of 560 million dollars. Combined with the net liabilities on movements of capital and financial services, this adverse effect would have considerably reduced the capacity to import, had not an increment to the value of 580 million dollars been registered in the volume of goods and services exported. As it was, the capacity to import decreased by only 30 million dollars. (See tables 4 and 5.)

Table 4. Latin America: Indices of the terms of trade by selected groups of countries, 1945-55

(1950 = 100)

Year	*Latin America*	*Coffee and cacao producers*	*Producers of other agricultural commodities*	*Producers of minerals*	*Other countries*
1945	61.7	51.6	73.1	78.5	75.9
1946	81.2	56.7	96.2	79.9	77.4
1947	85.3	60.0	113.3	82.2	86.8
1948	85.3	57.7	104.5	86.8	97.2
1949	86.3	64.2	89.5	86.5	94.7
1950	100.0	100.0	100.0	100.0	100.0
1951	105.2	99.4	113.5	113.5	103.6
1952	95.6	96.5	90.8	118.6	99.7
1953	99.5	99.5	98.4	126.3	95.8
1954	106.1	123.9	92.8	115.9	99.8
1955	98.8	108.4	84.7	122.4	97.5

Source: Official statistics.

Similarly, the unfavourable influence of the terms of rade on gross income was offset by increases of more han 3 per cent and 1.1 per cent in the total and the er capita gross product, respectively. This maintenance f aggregate demand exerted the same sort of pressure on mports as in 1954, and the value of purchases abroad ncreased by 160 million dollars at 1950 prices. This evoution of imports and of the capacity to import meant hat in 1955 the deficit in the external accounts of the egion as a whole was estimated at only 50 million dolars at 1950 prices. But it should be remembered that a favourable balance of 140 million dollars had been registered in 1954.

Latin America's aggregate balance-of-payments situation in fact conceals divergent trends among the individual countries. In four of these in particular—Argentina, Bolivia, Colombia and Uruguay—the disequilibrium in their balance of payments attained substantial proportions, and largely accounted for the region's negative balance, such as it was. Indeed, the aggregate balance-of-payments deficit of these four countries amounted to 450 million dollars at current prices, whereas for the

Table 5. Latin America: External payments capacity and capacity to import, 1945-55

(Millions of dollars at 1950 prices)

Year	Exports	Terms of trade effect with respect to 1950	Inflow of long term foreign capital	Total external capital payments capacity	Outflow of long term capital	Remittances of profits and interest (net)	Capacity to import: Total	Capacity to import: Percentage of gross income	Capacity to import: Percentage of total imports	Imports
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
1945.....	6,522	—2,504	333	4,351	81	543	3,727	13.5	124	2,997
1946.....	7,271	—1,367	356	6,260	592	697	4,971	16.4	109	4,544
1947.....	7,299	—1,073	702	6,928	339	770	5,819	17.6	89	6,511
1948.....	7,472	— 964	549	7,057	853	841	5,363	15.3	87	6,195
1949.....	6,904	— 946	664	6,622	231	610	5,781	16.1	102	5,665
1950.....	7,317	—	360	7,677	335	787	6,555	16.8	108	6,091
1951.....	7,210	375	534	8,119	213	805	7,101	17.1	94	7,593
1952.....	6,907	— 304	671	7,274	180	709	6,385	15.2	91	6,994
1953.....	7,813	— 39	605	8,379	261	812	7,306	16.9	108	6,755
1954.....	7,571	462	555	8,588	258	792	7,538	16.3	102	7,396
1955.....	8,149	— 98	550	8,601	231	862	7,508	15.4	99	7,558

Source: Official statistics.

remainder a favourable net balance of 360 millions (also at current prices) was recorded.

Latin America's monetary reserves increased by about 160 million dollars at current prices, or by 390 millions if the same four countries are excluded from the calculation. The region's foreign trade indebtedness rose by 251 million dollars (at current prices) and by only 7 millions if the four countries in question are disregarded.

4. The external sector and investment

For the sake of simplicity, no account has hitherto been taken of the investment coefficient,[1] whose importance for economic development goes without saying. In Latin America the volume of total investment is extremely sensitive to incentives from abroad, reflecting both direct and indirect influences.

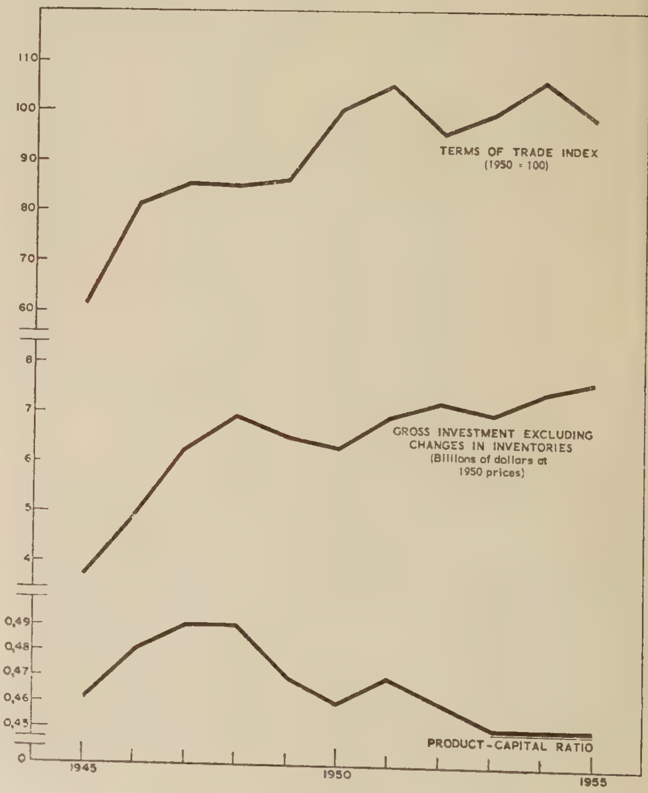
Whenever Latin America has reaped the benefits of a considerable improvement in the terms of trade, the tendency has been to maintain a high volume of gross investment, thanks to the substantial profits accruing to entrepreneurs and the greater incentives provided by the rise in total demand. (See figure III.) This stimulus was lacking in 1955, but its place was taken by the larger volume of exports, while profits and aggregate demand must also have increased. It should be recalled that the proportion of Latin America's total demand deriving from foreign sources has sometimes exceeded 20 per cent. Apart from its quantitative importance, such demand has already been shown in previous ECLA studies to be one of the principal dynamic forces affecting the internal economy. The influence on gross investment thus directly exerted by the external sector is reinforced by its effect on the capacity to import, where any increase facilitates greater imports of capital goods.

Trends of this kind were apparent in 1954 and 1955. In the former year, gross investment in fixed capital rose from 7.0 to 7.4 billion dollars (at 1950 prices), that is, by about 6 per cent. In 1955 it increased to 7.6 billion dollars, which represented an increment of less than 3 per cent. Thus, in both years the provision of incentives by the external sector and the maintenance of a high capacity to import coincided with an increased volume of gross investment. But, since the value of available goods

Figure III

LATIN AMERICA: INDICES OF THE TERMS OF TRADE, GROSS INVESTMENT AND THE PRODUCT-CAPITAL RATIO

Natural scale



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[1] Ratio between gross investment in fixed capital and available goods and services.

d services rose from 45.8 billion to 47.7 billion dollars t 1950 prices), in 1954 the investment coefficient was most 2 per cent below that of 1953, while in 1955 it as lower than in both these years. The rate of capital formation therefore weakened, despite the increase in available goods and services. Moreover, the investment coefficient has shown a downward trend since 1952. (See table 6.)

Table 6. Latin America: Gross investment, 1945-55

(Billions of dollars at 1950 prices)

Year	Gross investment			Available goods and services	Gross investment[a]	
	Total	Fixed capital	Changes in inventories		Including changes in inventories	Excluding changes in inventories
1945	3.6	3.7	—0.1	26.3	13.8	14.3
1946	5.0	4.9	0.1	29.5	16.9	16.6
1947	6.7	6.2	0.5	33.3	20.2	18.5
1948	7.3	6.9	0.4	34.8	21.1	19.8
1949	6.5	6.5	0.0	35.9	18.1	18.1
1950	6.4	6.3	0.1	37.8	17.0	16.7
1951	7.5	6.9	0.6	41.5	18.1	16.7
1952	8.0	7.2	0.8	42.3	18.8	17.0
1953	7.1	7.0	0.2	42.1	16.9	16.5
1954	8.2	7.4	0.8	45.8	17.9	16.2
1955	8.3	7.6	0.7	47.7	17.4	15.9

Sources: See appendix to this chapter.

[a] As a percentage of total available goods and services.

If the inertia of the investment coefficient were to per- ist over the long term, it would constitute a serious bstacle to an acceleration of Latin America's economic levelopment.

. THE COMPOSITION OF IMPORTS AND THE INVESTMENT COEFFICIENT

In view of the problem created for Latin America by his trend in the investment coefficient, it would be well o identify the factors hindering its growth. One of the hief obstacles, as a general rule, is the inadequacy of he capacity to import. In recent years—even in 1955, vhen the region was able to import a substantial volume f goods—the possibilities for larger purchases of capital oods have not improved, since the capacity to import ıad to be used to meet urgent raw-material and fuel re- uirements; otherwise, over-all economic activity would ıave suffered over the short term for want of supplies. Consequently, import policy was inevitably based on the rend to maintain purchases of capital goods at a high evel without unduly cutting down supplies of goods es- ential to industry.

Between 1945 and 1952, Latin America pursued a olicy deliberately designed to foster the rapid progress f industrialization—and with it a growth of the economy haracterized by greater diversity of production—as an ffective means of absorbing under-employed labour sur- luses and of raising income levels. Larger sums were nvested in basic social capital; monetary and credit olicy was planned to promote the expansion of industry, ts due correlation with agriculture at times being neg- ected; and trade policy aimed at the replacement of mports by domestically-produced goods, whose manu- acture was correspondingly encouraged. Advantage was hus taken of the steady improvement in the terms of rade and full use was made of the monetary reserves ccumulated during the war.

In 1952, the share of the consumer goods in total imports was considerably lower, and that of capital goods higher, than in 1945. But, in face of the marked increase in imports, specific restrictions were already beginning to be imposed by 1952, in which year purchases abroad were, nevertheless, 10 per cent in excess of the total capacity for foreign payments. During 1953, the restrictions became more severe and affected not only total imports but the acquisition of capital goods.

Relatively speaking, the restrictions were relaxed in certain countries during 1954, owing to the hopeful prospects for the terms of trade and the capacity to import at the beginning of the year. Thereupon imports promptly increased by 9 per cent, thus exerting pressure on the balance of payments in the second half of the year, when unfavourable price changes set in.

The policy of controlling purchases on foreign markets was maintained in 1955, but apparently to a smaller degree than before. Colombia and Brazil, for example, where more liberal steps in relation to imports had been taken in 1954, applied restrictive measures in 1955, whose effects were felt almost at once in Brazil, and in Colombia during the latter part of the year. Conversely, Argentina, Chile and Mexico had adopted a restrictive policy in 1954, but permitted larger purchases to be made abroad in 1955. In the first two countries, this change of attitude was mainly attributable to the shortage of essential goods from which they had suffered in previous years; Argentina's heavier imports brought about a marked disequilibrium in the balance of payments. In the case of Mexico, the recovery in the capacity to import consequent upon a high volume of goods and services exported (including the tourist trade) was the element that permitted the expansion to take place.

In one way or another, trade policy in 1955 was invariably based on the principle of import replacement. (See table 7.) Yet the only significant change in the

Table 7. Latin America: Coefficients of import components in relation to available goods and services, consumption and investment, 1945-55

Average for	*Capital goods as a percentage of fixed investment*	*Consumer goods*	*Raw materials*	*Fuels*	*Total imports as a percentage of available goods and services*
		(as a percentage of consumption)			
1945-49..........	31.8	6.8	3.3	1.6	15.2
1950-54..........	34.8	5.3	3.8	1.7	14.6
1955	31.0	4.5	4.5	1.9	14.0

Source: Official statistics.

composition of imports was the increase in the share of raw materials. In other words, the substantial imports effected in 1955 did not, as might have been hoped, promote a more rapid rate of capital formation which would have raised the investment coefficient. On the other hand, the improved supply of raw materials does seem to have encouraged a relative intensification of industrial activity in Argentina and in certain other countries which had been handicapped by shortages in previous years.

6. THE RELATIVE INADEQUACY OF SAVING AND THE INVESTMENT COEFFICIENT

The situation described above accounts only in part for the stagnation of the investment coefficient, which stood at about 16 per cent. Internal factors, which require analysis, were also responsible. Preponderant among these was the volume of saving. To judge by the coefficient of investment, that of saving, which began to fall in 1949, has apparently continued to slacken in recent years. (See again table 6.)

Since the need for a greater volume of savings, and Latin America's efforts in this direction, are well known, the factors determining the above phenomenon call for investigation.

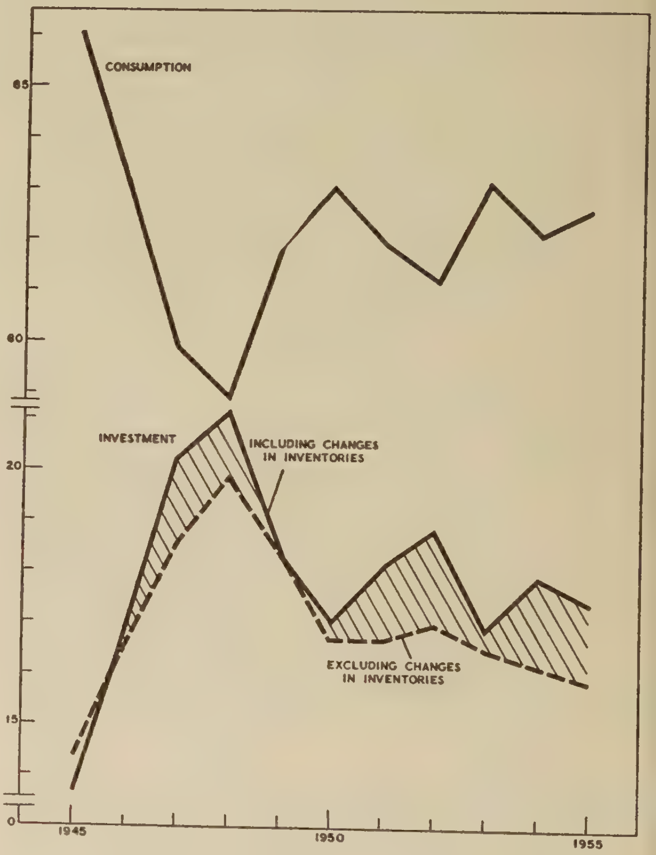
The level of income in Latin America is low, as witness the fact that in 1955 annual per capita income in eleven countries was below 200 dollars (at 1950 prices), in seven it ranged from 200 to 450 dollars, and in two only did it exceed 450 dollars. Such income levels as these offer scant margin for any considerable acceleration of the rate of saving. As a general rule, even given the rate of saving prevalent in the Latin American countries, the consumption of a large proportion of the total population is very limited. Hence the moderate increments registered serve to raise consumption levels rather than to increase the capacity for saving. This situation was intensified by the population shifts that accompanied the economic development of the post-war years. The larger individual earnings of the population transferred from primary activities to the urban centres led to the adoption of higher standards of living and the creation of new needs, and were mainly absorbed by additional consumption. It must also be remembered that in Latin America the marginal propensity towards consumption is extremely great in the higher-income brackets.

The year 1955 was no exception to this trend. Aggregate consumption, in addition to rising more than 4 per cent above the preceding year's high level (which had already exceeded that of 1953 by 7 per cent), increased its share of total available goods and services and thus caused a decline in the investment coefficient, despite th substantial growth of public investment. (See figure IV.

Figure IV

LATIN AMERICA: CONSUMPTION AND INVESTMENT 1945-55

(As a percentage of available goods and services)
Natural scale



The foregoing conclusions not only account for the composition of imports, but also underline the vitally important fact that over the last few years private saving has grown in absolute terms only, as a result of the increase in income, while its relative position within aggregate goods and services has been gradually weakened. In 1955, private investment was barely maintained at the 1954 level. (See table 8.) Public investment, on the other hand, played a major part in determining total investment, as it registered the exceptional increment of 15 per cent.

Table 8. Latin America: Gross investment in fixed capital, 1945-55

Year	Gross investment: Public (billions of dollars at 1950 prices)	Gross investment: Private (billions of dollars at 1950 prices)	Gross investment: Public (percentages of total)	Gross investment: Private (percentages of total)
1945	1.0	2.7	27	73
1946	1.0	3.9	20	80
1947	1.1	5.0	18	82
1948	1.4	5.5	20	80
1949	1.8	4.7	28	72
1950	1.9	4.4	30	70
1951	1.9	5.0	28	72
1952	1.9	5.4	26	74
1953	1.9	5.0	27	73
1954	2.0	5.4	27	73
1955	2.3	5.3	30	70

Sources: See appendix to this chapter.

A problem of fundamental importance for the future economic development of Latin America is thus raised. A relative stagnation of the investment coefficient does not prevent the gross product and gross income from maintaining an appreciable rate of growth, since this coefficient does not mean that investment fails to increase in absolute terms. On the other hand, it does indicate a certain weakness in Latin America's effort at capital formation, on which the region's hopes of accelerating its development must be based.

7. The product-capital ratio

The share of the product-capital ratio in the trend towards recovery observed in 1955 still remains to be considered. Although the steadiness of foreign demand provided enough incentives to maintain over-all economic activity at a high level, the product per unit of capital remained the same in 1955 as in 1954. Even with the reservations proper to provisional estimates of the stock of capital, it would seem that the product-capital ratio, after declining since 1949, has tended to become stabilized in recent years. In 1955, there was no deviation from this trend. (See table 9.)

Table 9. Latin America: Product per unit of capital, 1945-55

(Billions of dollars at 1950 prices)

Year	Gross product	Stock of capital	Product-capital ratio
1945	29.8	64.4	0.46
1946	32.2	66.4	0.48
1947	34.0	70.0	0.49
1948	36.1	74.1	0.49
1949	37.2	79.0	0.47
1950	39.0	83.8	0.46
1951	41.1	87.9	0.47
1952	42.2	92.6	0.46
1953	43.2	96.8	0.45
1954	45.9	101.7	0.45
1955	48.2	106.7	0.45

Sources: See appendix to this chapter.

The above statement can now be analysed in greater detail. Although statistics are inadequate, as they comprise only over-all data on public and private investment, they nevertheless shed some light on the problem.

It is well known that private investment is channelled towards agriculture or industry, for example, while public investment is primarily earmarked for basic projects, such as electric power stations, transport facilities, etc., which are of supreme importance, but whose productivity is only indirect and in any event slower to materialize. Such is the prevailing type of public investment, the marked increase in which weighed heavily in Latin America's total gross investment in 1955; it may therefore be inferred that the net capital added during the year had a product-capital ratio lower than that of the existing stock of capital, and that the latter had to be utilized more intensively for the average ratio to remain unchanged.

Statistics on investment by sectors of economic activity, which would have permitted a more accurate analysis of the problem, were not available. Without such figures the analysis of the evolution of the gross product by sectors proves unsatisfactory. (See table 10 and figure V.)

Table 10. Latin America: Rates of growth of gross product, by sectors, 1945-55

	1945-55	1954	1955
Agriculture	4.4	1.8	5.4
Mining	4.6	5.4	11.9
Manufacturing industries	6.1	7.1	5.8
Building	5.8	7.2	5.9
Other sectors	5.0	8.2	6.7
Gross product	5.1	6.3	5.9

Sources: See appendix to this chapter.

However, the product-capital ratio fluctuated in Latin America around a stationary level (0.45 per unit of capital) and the prospects of an upward movement seem to depend upon factors which operate slowly, save in exceptional years such as those during the Second World War.

II. TRENDS IN SELECTED COUNTRIES

1. Argentina

(a) *Recent development*

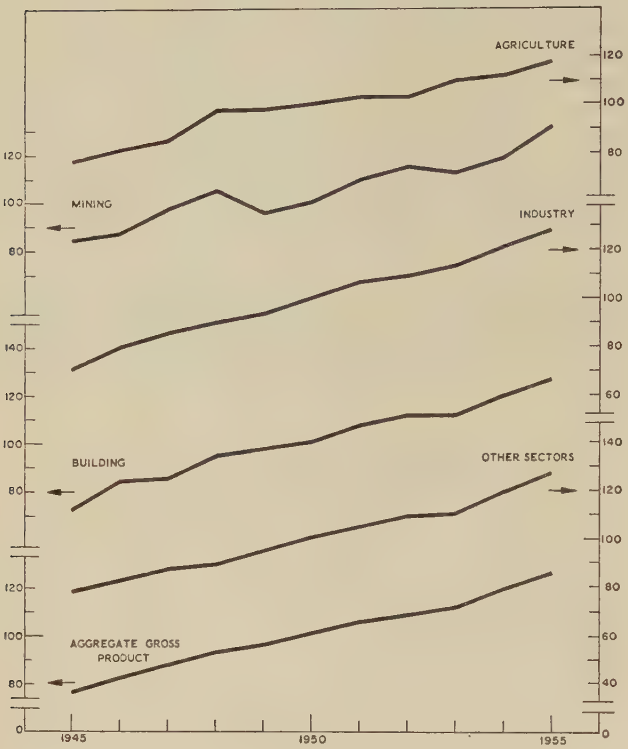
The structural handicaps to which Argentina's economy has been subject during the last few years did not prevent per capita gross income from rising by 1.2 and 1.9 per cent in 1954 and 1955, respectively, in relation to its level in 1953. To assess the real magnitude of the increase, and its importance for the recent development of the country's economy, it must be noted that in absolute terms income during 1955—68 billion pesos (at 1950 prices) in round figures—was scarcely higher than in 1948 and 1951. If demographic growth is taken into account, per capita gross income actually stood at a level 10 per cent lower in 1955 than in the two years mentioned. The prolonged persistence of the stagnation that had in fact begun in 1948 shows that the circumstantial factors responsible for short-term fluctuations in gross income were accompanied by others likely to be prejudicial to Argentina's economic development over the long run.

Figure V

LATIN AMERICA: GROWTH OF THE GROSS PRODUCT BY SECTORS

(1950 = 100)

Natural scale



This development was hampered by the precarious situation of two basic sectors of the economy: transport and energy. The shortcomings of the former were apparent from the condition of the railway system and of the road network, as well as from the availabilities of motor vehicles. The railways suffered an intensive process of disinvestment, estimated to have exceeded 20 per cent in little more than six years. Apart from the necessity of modernizing obsolete equipment, the failure to replace rolling stock has meant that only 25 per cent of the existing steam locomotives are in good condition, while 38 per cent are in urgent need of repair; the permanent way in use is from 32 to 50 years old and traffic density, measured on the basis of the distance covered annually by goods trucks, has declined in the course of a few years by 50 per cent. Again, the aggregate length of the road network, which in 1947 was 52,192 kilometres, had decreased to 51,582 kilometres by 1954. If it is further recalled that the highways have seldom been resurfaced and are for the most part in poor repair, the present condition of Argentina's road system can be readily understood. The lorry park is far from presenting a more hopeful picture. According to calculations, at least 100,000 units would have to be imported to renew it.

Electric energy is also undergoing a severe crisis, reflected in the shortage of electricity and the restrictions on consumption. In 1955, the capacity of the public-service power stations in Greater Buenos Aires was 800,000 kW; it is estimated that to meet existing demand some 300,000 more would be required, while this figure would have to be substantially raised for the maintenan of a satisfactory rate of growth during the next f years. Not only has electric energy been in short supp but the production of petroleum has been slow to expan so that imports in recent years have absorbed an eve increasing share of the country's scanty foreign exchan availabilities.

(b) *Total demand*

The rise in income during 1955 reflected the incr ment of 2 per cent achieved in the per capita gross pro uct, thanks to 4 per cent and 7 per cent increases in the p capita product of the agricultural and industrial sector respectively. Most of the credit for the increment was du to industry, not only because its expansion was greate but because of its preponderance within the total produc In 1955, Argentina's economy had the benefit of bette weather conditions, a more satisfactory supply of ra materials and fuels and a rise in aggregate demand. Th industrial recovery did not, however, mean that the pe capita levels registered in previous years—1950 and 195 for example—were exceeded.

Within total demand, the external sector continued t display the same symptoms of weakness as in recen years, and even exerted a stronger negative influenc than in 1954. On the one hand, the volume of aggregat exports of goods and services contracted by 7 per cent on the other, the terms of trade effect resulted in a los 3 per cent heavier than had been suffered in the preceding year. In contrast, domestic demand expanded an determined a rise in total demand. (See table 11.)

Investment in fixed capital, which during the last few years had been limited mainly by inadequate availabili ties of capital goods, increased by 7 per cent, or one billion pesos at 1950 prices, public and private investment contributing to this increment in similar proportions. While the external sector did not on this occasion, for the reasons outlined above, supply the incentives that induced the rise in investment, it did exert a favourable influence through the increase in imports of capital goods. On the other hand, some impetus may have been given by domestic consumer demand. But this latter stimulus was not absolutely essential, since the substantial investment requirements for basic sectors, industry, etc., remained unsatisfied. In Argentina's present economic situation, larger availabilities of capital goods would seem to be all that is necessary to promote investment. Per capita consumer expenditure rose by 2 per cent, or slightly more than the gross product.

The final outcome of these movements of investment and consumption was that total expenditure on goods and services increased by over 5 per cent in 1955, or, again, more than the gross product.

(c) *Capacity to import*

Broadly speaking, Latin America's capacity to import is inadequate. Within this over-all situation, Argentina constitutes a special case. It is perhaps the country where the capacity to import has undergone the most spectacular decline in recent years, owing to the exceptional factors analysed below.

If the movement of prices on the world market is taken into account, the capacity to import depended in

Table 11. Argentina: Gross product, terms of trade effect, consumption and investment, 1945-55

(Billions of pesos at 1950 prices)

					Gross investment			Consumption and investment as percentage of goods and services			
ear	Gross product	Terms of trade effect	Available goods and services	Consumption	Total	Fixed capital	Changes in inventories	Consumption	Gross investment	Fixed capital	Changes in inventories
945..	49.0	—2.1	44.0	36.8	7.2	8.4	—1.2	83.6	16.4	19.1	—2.7
1946..	55.2	0.4	51.2	39.6	11.6	10.9	0.7	77.3	22.7	21.3	1.4
1947..	63.3	2.2	62.2	43.5	18.7	16.5	2.2	69.9	30.1	26.5	3.6
1948..	66.0	1.6	66.9	47.7	19.2	17.1	2.1	71.3	28.7	25.6	3.1
1949..	62.8	—0.1	63.8	49.9	13.9	14.6	—0.7	78.2	21.8	22.9	—1.1
1950..	62.3	—	62.6	49.0	13.6	14.3	—0.7	78.3	21.7	22.8	—1.1
1951..	64.2	0.9	67.0	51.0	16.0	14.8	1.2	76.1	23.9	22.1	1.8
1952..	59.7	—0.4	61.4	46.9	14.5	13.3	1.2	76.4	23.6	21.7	1.9
1953..	63.0	0.4	62.9	51.3	11.6	12.7	—1.1	81.6	18.4	20.2	—1.8
1954..	66.0	—0.5	65.8	51.8	14.0	13.3	0.7	78.7	21.3	20.2	1.1
1955..	68.6	—0.6	69.7	54.7	15.0	14.3	0.7	78.5	21.5	20.5	1.0

Sources: See appendix to this chapter.

he past, and still depends today, on exports of agricultural products. Since 1948, the volume of total exports has remained stationary, thus reflecting in reality the lack of incentives from which agricultural production has been suffering of late. The crop sector, in particular, has been in a state of stagnation for approximately ten years.

In the first place, this is the result of the exchange-rate and price policy applied to agricultural production and exports. An excessive external overvaluation of the peso caused an obvious disparity between its purchasing power on the home market and abroad. Under the official system of marketing exportable products, this meant that the domestic prices fixed for the producer were far from encouraging, especially when the successive increases in costs that affected Argentina's economy are borne in mind. Secondly, this latter circumstance deprived the producer of the resources he required to introduce improved technical methods, especially when agricultural activity felt the effects of an exodus of man-power caused by the attraction of the better wages obtainable in economic activities in the urban centres. The inflation from which Argentina's economy had been suffering for years, and which was attributable both to monetary factors and to over-all wage increases at a time when productivity was deteriorating, necessitated a redistribution of income which had similar repercussions on the producers' capacity for capital formation.

All this exerted an unfavourable influence on agricultural production. The 21 million hectares which, on an average, were under cultivation during the period 1940-48, decreased in 1955 to 17 millions only. It must be recalled that within this total area, the contraction took place only in zones used for products whose prices were controlled, whereas production of those that could be marketed at free prices expanded by approximately 40 per cent. Furthermore, the reduction was to some extent offset by the enlargement of the area devoted to stockbreeding.

In 1955 the position of the capacity to import was more critical than in previous years, since it underwent a further contraction of about 13 per cent. This is explained by the evolution of exports and of prices on the world market, as already described. (See table 12.)

The slender capacity to import coincided with an increase of approximately 17 per cent in imports of goods and services, the result being a deficit in the balance of payments amounting to 1.6 billion pesos at 1950 prices. This disequilibrium meant that imports had exceeded the capacity to effect them by some 30 per cent. But it should

Table 12. Argentina: Capacity for payments and capacity to import, 1945-55

(Millions of pesos at 1950 prices)

							Capacity to import			
Year	Exports	Terms of trade effect	Inflow of capital	Capacity for payments	Outflow of capital	Remittances of profits and interest	Total	As a percentage of gross income	As a percentage of total imports	Imports
1945.......	6,768	—2,130	—	4,638	386	513	3,739	8.0	207	1,803
1946.......	7,541	392	—	7,933	2,123	674	5,136	9.2	144	3,555
1947.......	7,378	2,239	—	9,617	761	334	8,522	13.0	136	6,272
1948.......	6,144	1,613	26	7,783	2,728	45	5,010	7.4	71	7,033
1949.......	4,543	— 71	61	4,533	18	50	4,465	7.1	81	5,494
1950.......	5,013	—	233	5,246	—	15	5,231	8.4	98	5,357
1951.......	3,938	883	666	5,487	16	129	5,342	8.2	80	6,713
1952.......	2,720	— 391	480	2,809	—	17	2,792	4.7	63	4,448
1953.......	4,403	370	226	4,999	—	31	4,968	7.8	116	4,288
1954.......	4,743	— 451	176	4,468	39	57	4,372	6.7	97	4,524
1955.......	4,423	— 565	—	3,858	43	76	3,739	5.2	70	5,322

Source: Official statistics.

be noted that the heavier purchases abroad gave rise to an import coefficient (ratio to gross income) of only 9 per cent, which is one of the lowest figures recorded during the period 1945-55. Furthermore, this was practically the same as the coefficient registered in 1952, when a reduction of imports was caused by the deterioration of the capacity to import, due in its turn to the almost total loss of that year's crops. Thus, while the total volume of imports of goods and services expanded in 1955, it still failed to meet requirements of essential goods, although even so a marked disequilibrium in the balance of payments was recorded. This is the most patent manifestation of the weakness at present displayed by the external sector in Argentina.

(d) *Consumption, investment and the capacity to import*

The existing external disequilibrium is attributable not only to the adverse influence of the foreign sector, but also to the behaviour of factors which mainly operate within the internal economy. The whole economic process of the creation of income and its expenditure on consumption and investment brought about internal disequilibria which soon affected the balance of payments. The decline in the capacity to import and the balance-of-payments situation may also be analysed from this point of view.

It has already been shown that in 1955 the sum of consumption and investment was higher than the total volume of the gross product. For this to have been possible, imports must necessarily have exceeded total exports, and herein lay one of the determinants of the disequilibrium in the balance of payments.

This is no new state of affairs for Argentina's economy. On the contrary, virtually since 1948, and concurrently with a disequilibrium in the balance of payments, total expenditure and imports have exceeded the gross product and exports, respectively. It may now be asked which of the two components of total expenditure—consumption and investment—was responsible for the situation described, and what influence, both direct and indirect, they exerted on the capacity to import, which seems at the present time to be the focal point of Argentina's chief economic problems.

As from 1947, the coefficient of investment in fixed capital has been almost uninterruptedly declining, and since 1948 the same has been true of the absolute level of per capita investment, a trend which has thus coincided with the decrease in the gross product. On the other hand, per capita consumption rose by somewhat more than 6 per cent between 1947 and 1955. Hence it is clear that this growth was achieved at the cost not only of equilibrium in the balance of payments, but also of the absolute level of capital formation. This conclusion holds good for practically the whole of the period mentioned.

In addition, an expansion of consumption which was out of proportion to the possibilities offered by the evolution of income exerted a considerable influence on the internal economy and on the capacity to import. On the one hand, the growth of consumption was partly met through a reduction of the exportable balance, since it absorbed a greater volume of production. On the other hand, it seems to have combined with exchange policy and the establishment of fixed agricultural prices to p mote an internal redistribution of productive resour to the disadvantage of agriculture in general, and, sp cifically, of agricultural exports. Production for domes consumption, in other words, was given stronger ince tives not only by prices but also by demand. In sho this process implied that the increase in consumptio by curtailing exports, affected the capacity to import. these repercussions of internal factors on the capacity import are taken in conjunction with the effects of unfavourable evolution of the terms of trade, it can easi be understood why imports in 1955, although inadequa to meet requirements, helped to determine the mark disequilibrium in the country's international accounts.

(e) *Exchange measures and the new agricultural price*

The new measures adopted in October 1955 for th exchange rate and agricultural prices were dictated b the need to remodel Argentina's economy and thus revi agricultural activity and the capacity to import. Attentio has already been drawn to the adverse influence exerte on agricultural production by the fixing of low prices, an to the way in which these prices really depended on th pronounced overvaluation to which external peso quota tions were subject. Hence the first measure to be put int effect was the devaluation of the Argentine currenc (from 5.00 and 7.50 pesos to the dollar to 18 pesos) which more or less levelled down its external to its in ternal purchasing power. Simultaneously the various rate of exchange were standardized and the whole system sim plified, despite the temporary multiplication of rate which may have resulted from retentions on exports— amounting to as much as 25 per cent in some cases— and from the surcharges and taxes on certain imports A free market was also created for movements of capita and financial services, as well as for specific imports an exports. Subsequently, agricultural prices rose from 1 to 100 per cent, according to the product concerned Further, retentions and exchange surcharges will serv to build up a National Economic Rehabilitation Fund mainly designed to promote technical and economic im provements in agriculture and to pay subsidies whereby the possible effects of the devaluation of the peso can be mitigated.

The immediate outcome of devaluation and the new prices established for production has been a virtual redistribution of income in favour of the agricultural sector, especially as, at the date when these measures were adopted, the main crops had already been harvested, and no substantial increments in production will be registered over the short term. The object of this redistribution is to advance to the producer the resources he needs for increased capital formation.

Over the longer term, there are prospects of an expansion of Argentina's traditional crops. Here a decisive influence may be exerted by the stimulus of the new prices. Firstly, they tend to narrow the gap between the present relative profitability of the various crops and that recorded in previous periods, when harvests were large and exports heavy. Secondly, they may enable producers to use a larger volume of resources for mechani-

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[2] For fuller details, see the article entitled "The situation in Argentina and the new economic policy", in the *Economic Bulletin for Latin America*, Vol. I, No. 1 (January 1956), pp. 26 *et seq.*

ation and the introduction of better farming techniques, which will lead to an improvement in productivity. How ar this is likely to happen, and to affect the expansion of roduction, depends upon two main conditions, namely, hat there are no inflationary cost increases to absorb he profits accruing from the new prices, and that the ise in income is not solely used for a return to the armer's previous levels of consumption.

In any event, if the expansion of production envisaged or the forthcoming agricultural season is to mean a higher capacity to import, the larger exportable balances which will be obtained must be successfully marketed abroad. There has been a contraction of Argentina's oreign markets for certain products, especially wheat, owing to a series of factors, which include the large stocks accumulated by the United States and Canada and the growth of European production. However, prospects are much more favourable for some items, such as maize, linseed, meat, dairy products, etc. An impartial weighing-up of the situation would seem to indicate that the world market could absorb a larger volume of exports from Argentina. In that case, the desired end of increasing the capacity to import would be achieved.

The next question concerns the role of these measures in relation to the industrial sector, which they must obviously affect both directly and indirectly. Firstly, if the capacity to import is successfully enlarged, improved supplies of raw materials and capital goods will facilitate the fuller utilization of existing capacity and, where necessary, the modernization of equipment. That is, it will be easier for the product-capital ratio to recover from the decline it has been suffering in the industrial sector. Furthermore, the exchange measures automatically afford greater protection to industry and better facilities for the exporting of some of its products. Presumably, too, higher agricultural earnings will result in a rise in demand for industrial products.

(f) *The price increase*

As a consequence of the devaluation of the peso and the incentives offered to the producer, there was, according to official estimates, a 10 per cent rise in prices. This increase differs radically from others previously experienced by the Argentine economy. These latter were the outcome of an inflation of costs promoted and stimulated by bank credit and by over-all wage increases unaccompanied by any expansion of productivity. In contrast, the price increment of 1955 is due to the modification of the exchange system, which raised the prices of imported goods. But to this increase resulting from devaluation others might be added, should they not be neutralized by an expansion of productivity. During the last quarter of 1955, the money supply grew much more slowly than in the same period of 1954, namely, at a rate of 2 per cent instead of 8 per cent. Although some of this increment in the means of payment was absorbed by the rise in prices due to devaluation, it still constitutes an expansionist factor which may influence prices if its effects are not absorbed by greater productivity.

On the other hand, the wage increases decreed in March 1956 may affect prices and incentives to the producer in a different way. Firstly, although these over-all increases would appear to amount only to 10 per cent, it must be recalled that the minimum wage has risen and at the same time women's wages have been placed on the same level as those of men; hence they are estimated to be in many cases considerably larger. While wage increases are not absorbed by entrepreneurs' profits or by a proportionate expansion of productivity, they may bring about a further rise in costs and consequently weaken the incentives to agricultural production, on which, in the final instance, the restoration of the capacity to import depends.

2. BRAZIL

The upward trend followed by Brazil's economy during the last few years weakened in 1955, when the deterioration of the terms of trade and the decline in private investment and imports were among the most noteworthy changes that took place. As a result of exchange reform and restrictions on purchases abroad, the balance of payments approached equilibrium in the second half of the year, and closed with a surplus. But, apart from the reduction of imports already mentioned, another consequence was a rise in the prices of many raw materials and other imported production goods. Despite the control of bank credit, the inflationary forces of the economy—a fiscal deficit and heavy wage increases—maintained their latent pressure on the balance of payments.

Within the general setting characterizing the Brazilian economy in 1955, the per capita gross product grew by only a little more than one per cent, while per capita income remained practically stationary in marked contrast with its 8 per cent rise in the preceding year.

(a) *Trends in aggregate demand*

Aggregate demand was almost 2 per cent higher in 1955 than in 1954, whereas in this latter year it had expanded by 9 per cent. But it should be noted that the exceptional level attained by total demand in 1954 was attributable to a considerable improvement in the terms of trade and to an increase in consumption and particularly in investment. In 1955, in addition to the weakness displayed by total investment, substantial changes took place in the behaviour of the various components of aggregate demand. (See table 13.)

External demand, which had shown signs of depression in the first six months of the year, expanded considerably in the second half, and absorbed a volume of goods and services 10 per cent larger than in 1954. Nevertheless, the fall in average external sales prices neutralized the expansive effects of this increase in exports on the economy. During recent years, the considerable and more or less persistent improvement in Brazil's terms of trade has helped to promote a high level of economic activity, a rapid process of capital formation and a perceptible rise in per capita income. The favourable repercussions produced by the external sector had become the chief dynamic element in the Brazilian economy, by raising entrepreneurs' profits and total demand, and by enlarging the capacity to import; and, in reality, it was to the renewed impetus thus provided that the accelerated development of Brazil's economy had been adjusted. The ultimate outcome of the stagnation of the external sector in 1955 was the removal of incentives for internal demand.

Table 13. **Brazil: Gross product, terms of trade effect, consumption and investment, 1945-55**

(Billions of cruzeiros at 1950 prices)

					Gross investment			*Consumption and investment as a percentage of goods and services*			
Year	*Gross product*	*Terms of trade effect*	*Available goods and services*	*Consumption*	*Total*	*Fixed capital*	*Change in inventories*	*Consumption*	*Gross investment*	*Fixed capital*	*Change invento*
1945........	192.8	—13.9	170.2	146.4	23.8	24.0	—0.2	86.0	14.0	14.1	—0.
1946........	207.7	—15.8	187.7	158.4	29.3	29.4	—0.1	84.4	15.6	15.7	—0.
1947........	213.0	—13.2	200.2	168.2	32.0	31.6	0.4	84.0	16.0	15.8	0.
1948........	229.0	—14.3	212.2	182.0	30.2	31.3	—1.1	85.8	14.2	14.7	—0.
1949........	242.9	—11.5	232.2	197.8	34.4	32.1	2.3	85.2	14.8	13.8	1.
1950........	253.0	—	249.1	214.8	34.3	34.7	—0.4	86.2	13.8	13.9	—0.
1951........	268.2	— 0.1	273.0	231.8	41.2	39.1	2.1	84.9	15.1	14.3	0.
1952........	284.6	— 1.4	289.9	239.8	50.1	45.6	4.5	82.7	17.3	15.7	1.
1953........	290.9	— 0.7	287.4	242.8	44.6	41.5	3.1	84.5	15.5	14.4	1.
1954........	315.7	4.8	323.4	267.4	56.0	47.4	8.6	82.7	17.3	14.7	2.
1955........	328.0	1.8	328.6	280.4	48.2	43.0	5.2	85.3	14.7	13.1	1.

Sources: See appendix to this chapter.

If domestic demand was maintained in real terms at a level about 2 per cent higher than in 1954, this was principally due to the rise in consumption. Private consumption followed an upward trend, although less sharply than in earlier years. On this occasion it mainly reflected the influence of the over-all wage increases in the last six months of 1954 and the first quarter of 1955, which led to an expansion of consumer demand. However, as prices continued to rise, the effects of higher wages on such demand were gradually absorbed—especially in the second half of 1955—even though real wages still remained, on the average, higher than in 1954. The Government's current expenditure also exceeded that of the preceding year, and helped to determine the increment in total consumption. But deficit financing, combined with the wage increases mentioned, seems to have contributed to the continuance of the inflationary process which had already made itself manifest in Brazil.

In sharp contrast with the behaviour of consumption, aggregate investment decreased by 14 per cent, on account of the fall in private investment. In the first place, the deterioration of the terms of trade caused a contraction of the capacity to import which led purchases abroad to be reduced by more than 16 per cent. (See table 14.) At the same time, during the course of 1955 the higher quotations for foreign exchange in the various impo categories brought about a gradual rise in the prices many imported raw materials and capital goods, whic coincided with the inflationary increase in costs, as we as with a restriction of bank credit that was relaxed some extent only in the second half of the year. In add tion, the exchange policy in previous years has favoure over-investment in equipment, thus causing idle produ tive capacity in many industrial branches. Furthermor the inflow of foreign capital, which had been exceptio ally large in 1954, amounted in 1955 to less than 6 million dollars at 1950 prices. All this helped to discou age private investment.

In contrast, public investment increased considerabl in 1955, but despite deficit financing—which did no imply a mere transfer of expenditure from the privat to the public sector—the stimulus to private investmen thus provided was insufficient to offset the depressive e fects of the factors reviewed above.

(b) *Production trends*

The evolution of production, by sectors, followed th trends of aggregate demand, except in the case of agri cultural products, where weather conditions intervened Thus, agricultural production expanded by about 5 pe

Table 14. **Brazil: Capacity for payments and capacity to import, 1945-55**

(Millions of cruzeiros at 1950 prices)

							Capacity to import			
Year	*Exports*	*Terms of trade effect*	*Inflow of capital*	*Capacity for payments*	*Outflow of capital*	*Remittances of profits and interest*	*Total*	*As a percentage of gross income*	*As a percentage of total import*	*Imports*
1945........	31,314	—13,882	820	18,252	579	966	16,707	9.3	192	8,723
1946........	33,652	—15,763	1,088	18.977	466	1,110	17,401	9.1	128	13,624
1947........	32,433	—13,240	1,789	20,982	1,347	1,045	18,590	9.3	94	19,672
1948........	33,162	—14,324	1,913	20,751	2,777	1,931	16,043	7.5	98	16,376
1949........	29,047	—11,502	1,567	19,112	1,171	1,850	16,091	7.0	88	18,305
1950........	25,920	—	1,295	27,215	1,998	2,035	23,182	9.2	105	21,980
1951........	27,569	— 142	1,534	28,961	1,114	2,361	25,486	9.5	79	32,370
1952........	22,864	— 1,410	1,822	23,276	585	1,647	21,044	7.4	75	28,200
1953........	25,171	— 709	1,948	26,410	522	2,409	23,479	8.1	108	21,704
1954........	22,537	4,807	4,808	32,152	1,822	2,379	27,951	8.7	92	30,274
1955........	25,206	1,769	3,650	30,625	1,367	1,817	27,441	8.4	106	25,793

Source: Official statistics.

ent, mainly on account of the increment registered in ertain products for domestic consumption, such as heat, maize and rice, as well as in coffee and cotton. acao, on the other hand, was barely able to maintain ne preceding year's levels. As against this trend, live-ock production showed a much smaller rise in inventories than in 1954.

For the gross product in the industrial sector, which eacted to the influence of the domestic demand situation lready described, an increase of about 4 per cent contrasted with the 10 per cent increment recorded in 1954. he branch most seriously affected was that of production oods. The output of glass and ceramics declined by 3 per ent, and in the iron and steel making industry the volume f production was no larger than in 1954. It would seem hat certain industries manufacturing capital goods also ended to remain stationary throughout the year 1955. heir level of activity reflected the restrictions on bank redit,[3] the scarcity and high prices of certain raw materials and capital goods, the smaller inflow of foreign apital and the stagnation of aggregate demand, which ffected private investment. The cement industry, on the other hand, while feeling the adverse effects of the decline n building activities, was able to offset them through he replacement of imports and, to a lesser degree, hrough the increase in public investment. Thus it chieved an expansion of 15 per cent, which was more ntensive than that registered in 1954.

The industries producing consumer goods, taken as a whole, grew by 5 per cent. Not only was their output influenced by the rise in consumption previously indicated, but also restrictions on imports and the higher price of mported goods made themselves felt more strongly in he case of such commodities. This encouraged a more ntensive utilization of productive capacity so as to compensate in some instances for the reduction in imports.

The remaining sectors of the economy seem to have kept pace with the growth of the population.

(c) *The balance of payments*

The balance of payments registered a surplus of about 2 billion cruzeiros. Nevertheless, as was stated at the outset, the pressures on this balance, which had brought about considerable disequilibrium in several years during the recent past, and especially in 1954, survived in latent form in 1955. If in that year they were not reflected in Brazil's foreign accounts, this was only because of the severe restrictions imposed on imports.

During the last few years the rate of growth of income has been more rapid than that of the capacity of import. The former followed a more or less uniform trend in the course of its intensive annual growth, whereas the latter was subject to somewhat marked fluctuations in the volume of exports and in the terms of trade. At all events, while income increased by more than 30 per cent between 1950 and 1955, the capacity to import did so only by approximately 18 per cent. This expansion of income, promoted by the behaviour of the external sector, was achieved through the intensive rate of capital formation, largely sustained by imports of capital goods. At the same time, this growth of income caused an increase both in the demand for domestically-produced and imported consumer goods and in requirements of imported raw materials and fuels. Hence the propensity to import remained at high levels. In those years when this propensity was most fully satisfied, it was responsible for heavy deficits in the balance of payments, even at times when the capacity to import increased, as, for example, in 1951 and 1954.

It was to this type of pressure, originating in the rapid rate of development, that the balance of payments was subject. But, in addition, the inflationary repercussions of the internal economy had also affected the balance of payments in earlier years. In 1955, these influences continued to operate, although less intensively, to judge by the expansion of the money supply and the rise in prices. In any event, successive decreases in foreign quotations for the cruzeiro in the different import categories took place throughout 1955, thus reflecting the severe pressure on Brazil's balance of payments.

3. Colombia

(a) *General trends*

The marked deterioration in the terms of trade which had already set in during the second half of 1954 sharpened during 1955, and thereby weakened one of the expansive forces that in previous years had promoted extensive and rapid economic growth. There was thus an interruption of the pronounced upward trend which had been characterized since 1945 by rates of growth that were high for the gross product and higher still for gross income and for available goods and services. Between 1945 and 1954, the average annual rate of increase of per capita gross income was 12 per cent. In 1955, income declined by 1.8 per cent, but the growth of available goods and services still kept pace with that of the population.

In contrast to the behaviour of the external sector, the dynamic forces of the internal economy and the compensatory policy pursued by the Government tended to maintain the level of economic activity, and mitigated the effects of the deterioration in the terms of trade by sustaining domestic demand and the investment coefficient. (See table 15.) The result, however, was a substantial disequilibrium in the balance of payments on current account. By 1955, this disequilibrium had become the dominant feature of the Colombian economy. Should present trends in the external sector persist, it would not be long before they affected the country's economic development.

(b) *Aggregate demand*

The favourable evolution experienced by the terms of trade in recent years reached its peak in 1954, with a 20 per cent improvement over the high 1950 level. In 1955, in contrast, an 11 per cent deterioration took place in relation to the previous year, mainly owing to the decline in coffee prices, which had already begun by the second half of 1954; simultaneously, the volume of total exports decreased by 3 per cent. Hence, the favourable terms of trade effect in relation to 1950 amounted only to the modest sum of 80 million Colombian pesos, as against 220 millions in 1954. (See table 16.) External demand, which had previously been mainly responsible

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[3] It is the production goods industries that resort most freely to bank credit in Brazil.

Table 15. Colombia: Gross product, terms of trade effect, consumption and investment, 1945-55

(Millions of pesos at 1950 prices)

Year	Gross product	Terms of trade effect	Available goods and services	Consumption	Gross investment			Consumption and investment as a percentage of goods and services			
					Total	Fixed capital	Change in inventories	Consumption	Gross investment	Gross capital	Change investm
1945......	4,263	—491	3,833	2,655	1,178	928	250	69.3	30.7	24.2	6.5
1946......	4,539	—471	4,157	3,144	1,013	1,151	—138	75.6	24.4	27.7	—3.3
1947......	4,650	—389	4,486	2,919	1,567	1,435	132	65.1	34.9	32.0	2.9
1948......	4,982	—380	4,684	3,173	1,511	1,408	103	67.7	32.3	30.1	2.2
1949......	5,259	—284	4,913	4,161	752	1,051	—299	84.7	15.3	21.4	—6.1
1950......	5,536	—	5,499	4,033	1,466	1,289	177	73.4	26.6	23.4	3.2
1951......	5,792	— 80	5,677	4,026	1,651	1,171	480	70.9	29.1	20.6	8.5
1952......	6,240	— 64	6,140	4,566	1,574	1,239	335	74.4	25.6	20.2	5.4
1953......	6,616	— 40	6,563	4,942	1,621	1,495	126	75.3	24.7	22.8	1.9
1954......	7,172	221	7,456	5,606	1,850	1,670	180	75.2	24.8	22.4	2.4
1955......	7,200	75	7,498	5,518	1,980	1,780	200	73.6	26.4	23.7	2.7

Sources: See appendix to this chapter.

Table 16. Colombia: Capacity for payments and capacity to import, 1945-55

(Millions of pesos at 1950 prices)

Year	Exports	Terms of trade effect	Inflow of capital	Capacity for payments	Outflow of capital	Remittances of profits and interest	Capacity to import			Imports
							Total	As a percentage of gross income	As a percentage of total imports	
1945..........	869	—491	115	493	13	19	461	12.2	105	439
1946..........	941	—471	127	597	14	21	562	13.8	100	560
1947..........	901	—389	82	594	8	16	570	13.4	77	737
1948..........	925	—380	48	593	17	11	565	12.3	90	627
1949..........	946	—284	29	691	34	25	632	12.7	105	600
1950..........	860	—	42	902	32	77	793	14.3	96	823
1951..........	960	— 80	62	942	40	61	841	14.7	100	845
1952..........	947	— 64	129	1,012	51	33	928	15.0	110	847
1953..........	1,144	— 40	78	1,182	46	40	1,096	16.7	100	1,091
1954..........	982	221	156	1,359	44	27	1,288	17.4	102	1,266
1955..........	962	75	101	1,138	55	35	1,048	14.4	83	1,260

Source: Official statistics.

for the expansion of total demand, and therefore the most powerful of the dynamic forces affecting the internal economy, exerted a weaker influence, and would have had even greater depressive consequences than those described, but for the other dynamic factors mentioned, which can operate only over the short term.

The phase of Colombia's economic development whose outstanding features were the rapid growth of the gross product and of gross income, was followed by a far-reaching and radical change in the structure of the economy between 1945 and 1954. As regards employment by sectors, the relative share of employment in industry, energy, transport, commerce, etc., rose from 38 per cent in 1945 to 45 per cent in 1954, whereas the corresponding figure for agriculture fell from 62 to 55 per cent. A similar change in the stock of capital by sectors accompanied the channelling of investment towards more productive activities. As a result, the structure of production also underwent considerable modifications, since the export sector's share in the gross product dropped from 20 per cent in 1945 to 13 per cent in 1954. This process had two consequences of vital importance to Colombia's economy, namely, the partial displacement of the external dynamic element by the forces of the internal economy, and the related changes in the structure of aggregate demand.

Without the aid of the economic policy pursued by the Colombian Government in 1955, these changes might not have completely conteracted the negative operation of the external factors. The compensatory financing of the coffee purchases effected by the Federación Nacional de Cafeteros, the increase in public investment, and the exchange, monetary and fiscal policies adopted, all acted as neutralizing instruments and consequently helped to sustain total demand.[4]

Hence public and private consumer demand remained, in absolute terms, at a level similar to that of the preceding year, although the per capita figure was 2 per cent lower. Nevertheless, since exchange measures were aimed at restricting imports of consumer goods, the demand for domestic products was really higher than the year before. But even so, consumption of domestically-produced goods was far lower than in earlier years, particularly 1954, when total consumption increased by about 10 per cent.

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[4] For a detailed description of these measures, see "Colombia's economic policy in a year of balance-of-payments disequilibrium", in the *Economic Bulletin for Latin America*, *op. cit.*, pages 53-58. For other previous measures, see also "Impact of coffee exports on the economies of Brazil and Colombia" in the *Economic Review of Latin America* (special issue, Bogota, August 1955), pages 40-47.

In demand arising from investment a 7 per cent increase was recorded, which, although below the 1954 figure, still enabled the investment coefficient to reach 24.6 per cent. Indeed, this was the chief factor tending to neutralize the effects of the terms of trade on aggregate demand. It should, however, be recalled that private investment increased by only 5 per cent, and mainly corresponded to the completion of projects begun at an earlier date and to the greater demand for production goods originating in the public sector. Public investment—extremely high in 1954—rose by more than 14 per cent in 1955; hence it was pre-eminently responsible for the maintenance of the above demand, which it affected both directly and by its subsequent expansive effects on the internal economy.

(c) *Production trends*

Agricultural production continued at the previous year's level. The coffee crop constituted a record for Colombia. Actually, price fluctuations have no short-term effect on this product, because of the special features characterizing its cultivation and the time-lag before any output is yielded. Moreover, in the second half of the year the surplus held by the Federación Nacional de Cafeteros was successfully sold abroad. For other crops, 1955 was at least as satisfactory as the preceding year, and in the case of some products for domestic consumption—rice, for instance—there was practically no need for imports.

The high annual rate of growth (12 per cent) registered for industry during the period 1950-53, was succeeded by very small increases in 1954 and 1955. In 1955 industrial output was chiefly maintained by virtue of the restrictions on imports of consumer goods and the demand for specific production goods deriving from the Government's heavy investments. But, clearly, the process of industrialization that had hitherto characterized Colombia's economic development was slowed down. In mining, which had suffered a crisis in 1954—particularly as regards precious metals—no change took place during the year. The other sectors also remained more or less stationary.

(d) *Deterioration in the terms of trade and external disequilibrium*

The deterioration in the terms of trade meant that they no longer represented either a dynamic force or—as in recent years—a factor permitting imports to increase without resultant balance-of-payments disequilibria. For a full understanding of the nature of this phenomenon, a salient feature of Colombia's economic development in recent years must be recalled, namely, the rapid and persistent expansion of imports, whose volume rose by 125 per cent within a decade.

Firstly, this development required ever greater quantities of capital goods for the economy to reach an investment coefficient which varied between 20 and 25 per cent of available goods and services during 1945-54. At least 40 per cent of these goods were purchased abroad. Secondly, the very rise in income, and population shifts towards urban activities, modified the structure of demand. For instance, income-elasticity coefficients were very high for the principal durable and certain non-durable goods, and relatively high for processed foodstuffs. Most of these commodities also came from abroad, and offered a marked contrast with domestically-produced consumer goods, whose statistical coefficients were very low.[5]

While it is true that in recent years a process of replacing imports by domestic production has been taking place, this too has necessitated progressively heavier imports of raw materials. The magnitude of the increases in the groups of imports mentioned reduced the relative importance of consumer goods, as a result of the substitution process.

During this period—except in 1953—the increase in total imports was accompanied by a parallel growth of the capacity for external payments, brought about not so much by higher exports as by the favourable effects of the terms of trade. To grasp the full importance of these latter it should be recalled that between 1945 and 1954 they not only raised the capacity for external payments by 130 per cent, but also prevented the increase in imports, described, as well as the defrayment of heavy financial services, from causing any serious disequilibrium in the balance of payments on current account.

But, as has already been pointed out, the evolution of the internal economy in 1955 differed from that of the terms of trade. The deterioration in the latter, and a 15 per cent reduction in the capacity for foreign payments, coincided with a level of demand which continued to exert pressure on imports, and, at the same time, with heavier expenditure on financial services than in 1954. The various measures to restrict imports, mainly based on a system of multiple exchange rates, failed to prevent disequilibrium in the balance of payments on current account, the deficit amounting to some 200 million dollars (at 1950 prices).

(e) *Conclusions*

Many lessons of practical value for Colombia's economy can be learned from the experience of 1955. The internal dynamic forces have shown themselves capable, up to a point, of neutralizing, relatively and over the short term, the negative effects of a falling-off in external demand, and of maintaining the levels of the gross product, employment and effective demand. But it has also become apparent that their operation leads to strong pressure on the balance of payments and thence to disequilibrium, and that such pressure cannot easily be counteracted by means of restrictive measures like those adopted in 1955. Over the long run, the weakness of the external sector, should it persist, may seriously hamper economic development, through difficulties in the supply of capital goods and the consequent decline of the investment coefficient. Only the more energetic substitution of domestic production for imports of consumer goods and certain raw materials—which is far from easy to achieve at short notice—would allow Colombia to purchase more capital goods on foreign markets without considerably increasing its total imports, at least until such time as the country is in a position to produce many of the capital goods that must at present be acquired abroad.

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[5] See the article in the *Economic Bulletin for Latin America, op. cit.*, pages 55 and 58.

4. MEXICO

The year 1955 witnessed an accentuation of the upward trend followed by Mexico's economy after the temporary contraction experienced two years before. Gross income rose by about 10 per cent and per capita income by approximately 7 per cent, thus exceeding for the first time the 1951 peak. However, Mexico's economy displays a series of features distinguishing the present boom from the phase of intensive development which culminated in 1951, while at the same time some of the disparities that marked the post-war period still survive. To describe both sets of characteristics as accurately as possible, and to interpret their meaning, the trends of aggregate demand, broken down into its various components, should first be analysed, and developments in the different sectors of production should then be examined.

(a) *Aggregate demand*

Among the components of aggregate demand, it was perhaps exports that, directly or indirectly, played the most active role. As regards their direct action, it may be pointed out that the quantum exported was 23.2 cent higher than in 1954. The indirect influence of increase in exports was particularly apparent in priv investment. The principal determinant of the growth exports was the boom in the United States economy. 1955, the satisfactory position with respect to exter demand coincided with the completion of certain inv ment projects which increased both production and portable surpluses, thus permitting an even grea expansion of exports.

Total gross investment rose by 16 per cent, but t upward movement was the result of divergent trends public and private investment. (See table 17.) In fa public investment—which in earlier years had exer a decisive influence on the level of activity and the r of development—contracted by nearly 10 per cent in r terms. In this sense 1955 was an exceptional year, sin the only other recent case of a fall in public investm had occurred in 1953, when it caused an over-all decli in both demand and income, whereas in 1955 it was off by the rise in private investment. This latter, in contr to public investment, registered a proportional increa higher than that of any of the other components of glob demand (40 per cent). Herein lay another of the peculi features of the year under review, as until 1955 priva investment in Mexico had been largely the direct outcom of activity in the public sector.

Table 17. Mexico: Gross product, terms of trade effect, consumption and investment, 1945-55

(Millions of pesos at 1950 prices)

					Gross investment			Consumption and investment as a percentage of goods and services			
Year	*Gross product*	*Terms of trade effect*	*Available goods and services*	*Consumption*	*Total*	*Fixed capital*	*Change in inventories*	*Consumption*	*Gross investment*	*Fixed capital*	*Change i inventori*
1945..	32,500	— 94	31,826	28,226	3,600	3,600	...	88.7	11.3	11.3	...
1946..	35,100	130	36,634	32,534	4,100	4,100	...	88.8	11.2	11.2	...
1947..	35,500	274	36,982	32,082	4,900	4,900	...	86.7	13.3	13.3	...
1948..	37,200	502	38,056	32,856	5,200	5,200	...	86.3	13.7	13.6	...
1949..	39,400	—203	38,464	32,864	5,600	5,600	...	85.4	14.6	14.6	...
1950..	43,300	—	42,353	36,453	5,900	5,900	...	86.1	13.9	13.9	...
1951..	47,200	809	48,339	42,039	6,300	6,301	— 1	87.0	13.0	13.0	...
1952..	47,600	1,013	48,331	42,031	6,300	6,297	3	87.0	13.0	13.0	...
1953..	46,300	253	46,636	40,936	5,700	5,882	—182	87.8	12.2	12.6	—0.4
1954..	49,800	— 30	49,212	43,112	6,100	6,230	—130	87.6	12.4	12.6	—0.2
1955..	54,600	—470	53,347	46,247	7,100	7,210	—110	86.7	13.3	13.5	—0.2

Sources: See appendix to this chapter.

A major stimulus to private investment was provided by external demand, which maintained, and even rose above, its previous high level. Furthermore, the effect of two consecutive years of expanding agricultural production (the increment between 1953 and 1955 amounted to 30 per cent) was to enlarge the domestic market and improve investment prospects in the industrial sector. These incentives were strengthened in April 1954 by the devaluation of the currency, which not only encouraged exports, but also offered additional protection to industries producing for the domestic market. All this created a favourable atmosphere for private investment. Moreover, in several important sectors the Government took special steps to promote the expansion of private enterprise; among these should be mentioned, first and foremost, the official protection accorded to the creation o new industries manufacturing transport material, such a railway rolling-stock and motor vehicles.

Such inducements were accompanied by a parallel increase in the resources available for financing privat investment. One of the factors that helped to determin the greater availability of financial resources was the widening of the entrepreneurs' margins of profit; this, in turn, was the result of devaluation and of the consequen inequality in price and wage increases. Another contributory cause was the intensification of the inflow o foreign capital, which reached an estimated net value o over 75 million dollars (including reinvestment), and financed about 15 per cent of private investment. (See tables 17 and 18.)

Table 18. Mexico: Capacity for payments and capacity to import, 1945-55

(Millions of pesos at 1950 prices)

	Exports	*Terms of trade effect*	*Inflow of capital*	*Capacity for payments*	*Outflow of capital*	*Remittances of profits and interest*	*Capacity to import*			*Imports*
							Total	*As a percentage of gross income*	*As a percentage of total imports*	
.....	7,641	— 94	621	8,168	94	586	7,488	23.1	107	6,967
.....	6,006	130	509	6,645	678	559	5,408	15.4	72	7,540
.....	4,725	274	1,190	6,189	1,116	760	4,313	12.1	69	6,207
.....	4,516	502	431	5,449	299	627	4,523	12.0	84	5,372
.....	5,684	— 203	707	6,188	412	478	5,298	13.5	112	4,747
.....	6,925	—	1,091	8,016	270	586	7,160	16.5	120	5,978
.....	6,566	809	772	8,147	322	510	7,315	15.2	95	7,705
.....	6,796	1,013	1,137	8,946	400	684	7,862	16.2	104	7,527
.....	7,499	253	760	8,512	421	759	7,332	15.7	94	7,835
.....	8,259	— 30	637	8,866	910	551	7,405	14.9	97	7,671
.....	9,256	470	1,194	10,920	452	753	9,715	17.9	121	8,003

urce: Official statistics.

s a result of the interplay of these incentives and
urces, private investment was channelled in three
n directions: firstly, towards the expansion of pro-
tive capacity in the export sector, particularly as
rds cotton, coffee and sulphur; secondly, towards
e sectors of trade and industry that derived the
atest additional protection from devaluation, higher
oms duties and the establishment of quantitative im-
restrictions, in which group the renewal of invest-
t in projects shelved since 1953 should be incorpo-
d; and, thirdly, as in Mexico's previous periods of
sperity, towards building for residential and com-
cial purposes. Otherwise, the process of investment
tockbreeding and in agricultural products for do-
tic consumption that had been initiated in previous
s pursued its normal course.

evertheless, investment in production for the home
ket bore no relation to the growth of domestic con-
ption. In fact, consumer expenditure increased at a
er rate than the other components of total demand,
the obvious exception of public investment, which
ined. Private consumption, which had expanded by
r cent in 1954, rose by 7 per cent in 1955, but adjust-
t of this figure to demographic growth demonstrates
real per capita consumption did not regain the peak
reached in 1951.

lthough, within demand generated in the private
or of the economy, the growth of investment out-
pped that of consumption, in the public sector the
osite was the case. While public investment, as has
shown, declined, the Federal Government's current
nditure increased by 10 per cent in real terms. This
ement almost exactly offset the reduction in invest-
t, since total public expenditure rose by 2 per cent.

(b) *Production trends*

break-down of the various sectors' contributions to
expansion of production reveals the logical counter-
of the movements of demand just examined. Thus,
he agricultural sector—where an increment of nearly
per cent in relation to the preceding year was reg-
red—the most substantial increases were recorded in
ort products (cotton, 18 per cent; coffee, 10 per cent;
o, 10 per cent). Production for domestic consumption expanded to a much lesser degree, or even decreased, in the case of maize, by 2 per cent, and in that of beans and wheat, by 5 per cent. Per capita availabilities of this last group of products remained almost unchanged, owing to the growth of the population and the sharp curtailment of imports.

Mining output, in response to the stimulus of external demand, increased by 15 per cent. The largest increment was registered for sulphur, but the production of zinc and silver also expanded considerably.

Production of electric energy and petroleum rose by about 12 and 7 per cent respectively. The influence of external incentives was also felt in the petroleum industry, since exports increased by 18 per cent, thus amounting to almost 29 per cent of total production.

Manufacturing output increased by about 10 per cent. But in this sector too there were great disparities between the different branches. Taken as a whole, the capital goods industries expanded their production by 20 per cent, whereas in those manufacturing consumer goods output rose by only 8 per cent. These differing trends are not surprising, given the movements of demand analysed above.

(c) *Conclusions*

External factors exerted a notable influence on the recovery of Mexican economy in 1955. Although these factors had already played a very active role on other occasions, as, for instance, during the Second World War and the Korean hostilities, there were two important differences between the situation then and in 1955. In the first place, neither of the two wartime periods created conditions that permitted an increase in imports of capital goods proportionate to the prevailing high levels of external demand. In the second place, the effects of public investment and external factors then tended towards the same ends, instead of operating in opposite directions as in 1955. Hence it would be difficult to match in recent times the active role played by external factors in determining the general level of activity and the channelling of resources.

Moreover, the 1955 boom accentuated some of the features of the economic evolution of the fifteen pre-

ceding years. The growth of consumption and wages was still slower than that of investment and profits. In this sense, despite the existing prosperity, there are still structural problems which may hamper the continuance of rapid and uniform development.[6] The rise in agricultural income, the maintenance of a high level of external demand and the replacement of imports by domestic production, which acted as incentives in 1954-55, although
they brought about no major changes in these struct
conditions, did counteract their adverse effects.

A trend still persists in internal demand which, clo
following movements of income, has led to a rapid
pansion of production goods industries, but has hac
unfavourable effect on those manufacturing non-dur
consumer goods, the insufficient market for which
tinues to retard development. Revived demand for
mestic products in 1954 and 1955 has resulted, in o
sectors, in a rise in prices rather than in increased
duction and consumption, owing to the inelasticity
supply and the heavier costs.

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[6] See the *Economic Survey of Latin America, 1953* (E/CN.12/358), United Nations publication, Sales No.: 1954.II.G.1, pages 98-99.

Appendix to Chapter I

CONCEPTS AND SOURCES

I. DEFINITION OF MAIN CONCEPTS[1]

Gross product has been used for convenience throughout to mean the gross domestic product at market prices, that is, the market value of the product attributable to the factors of production located within the country before allowance for depreciation. It is equal to the sum of consumption expenditure, gross domestic capital formation and net exports of goods and services. It differs from the gross national product at market prices by the inclusion of net factor income payable to the rest of the world (i.e., investment income, such as interest, dividends and branch profits).

Available goods and services, entitled "total available means" in some countries, refers to the sum of consumption expenditure and gross domestic capital formation. Available goods and services plus net exports of goods and services (or less net imports) equals gross product as defined above.

Gross income has been used to designate the sum of gross national product in prices of a base year (1950) and the calculated gain (or loss) resulting from changes in the terms at which exports are exchanged against imports relative to the prices that prevailed in the base year. The adjustment for changes in the terms of trade is a measure of the change in the purchasing power of exports, which are here regarded as a means of obtaining imports from abroad. While gross national product and gross national income are identical aggregates when expressed in current prices, it should be noted that the two normally diverge when expressed in prices of a base year, except for the base year itself when the gain from changes in the terms of trade is of course nil.

Terms of trade effect is the title that has been applied to the gain or loss resulting from changes in the terms of trade relative to the base year (1950). It has been calculated as the product of exports of goods and services expressed in prices of the base year by the change, since the base year in the index of the terms of trade (the ratio of the unit value index of exports to that of imports); or, what amounts to the same thing, as the difference between the value of exports of goods and services deflated by the import price index and the same value deflated by the export price index.

Estimates in U.S. dollars of 1950 are obtained by means of conversion rates established by ECLA for 1950. These rates are intended to approximate the over-all purchasing power parities between the currencies of the various countries of Latin America and the United States dollar of 1950 purchasing power; they are admittedly very approximate. A systematic study is now under
way aimed at providing more precise and satisfactory conve
rates for use in future studies.

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Chapter II

FOREIGN TRADE AND THE BALANCE OF PAYMENTS

I. Introduction

An increase in the volume of exports and a reduction in their unit value were the outstanding factors which influenced Latin America's foreign trade during 1955. Both operated with equal intensity, so that any advantages which might have been expected from the greater efforts to produce export commodities were neutralized by the fall of prices.

But the data for 1955 still compare favourably with those for 1950. Despite a reduction of 6 per cent in relation to 1954, the price index was 8 per cent higher than in 1950 and the quantum of exports reached an all-time peak of 7,230 million dollars;[1] this figure was 6 per cent above the 1954 level, 11 per cent larger than that of 1950 and 4 per cent greater than the previous maximum recorded in 1953. Imports continued to rise and their volume increased by 2 per cent. Here again, statistics for 1955 were higher than for any former year, including even 1951. In relation to 1950, the advance in imports amounted to 27 per cent, so that the index substantially exceeded that of exports. The price of imports rose slightly because of the heavier freight charges.[2] As a consequence, the terms of trade deteriorated by 7 per cent in relation to the previous year and by 1 per cent when compared with those of 1950.

The pronounced change of trend which occurred in the course of the year should also be noted. During the first six months of 1955, exports showed no signs of increasing; on the contrary, the decline which had begun in the second half of 1954 became sharper and imports—although lower than in the previous six months—remained at a high level. In marked contrast, the current value of exports during the second half of 1955 exceeded 4 billion dollars, a figure which had never previously been reached even during the most active period of the Korean War. Furthermore, foreign markets remained more stable and higher prices were quoted for the main commodities exported by Latin America, with the exception of cacao and wool. The improvement in the region's trade balance during the second half-year mainly arose from the peak exports of coffee from Brazil and Colombia, of chilled meat from Argentina and of wool from Argentina and Uruguay. Similarly, the measures to reduce imports adopted by a number of countries at the beginning of 1955 had a greater effect in the latter part of the year.

Statistics emphasize the significance of the change. While Latin America's favourable trade balance during the first six months fell to only 115 million dollars, during the second half-year it stood at 320 millions. But ann balances have shown a serious decrease, from 1,241 m lion dollars in 1953 to 657 in 1954, and to 435 milli in 1955.

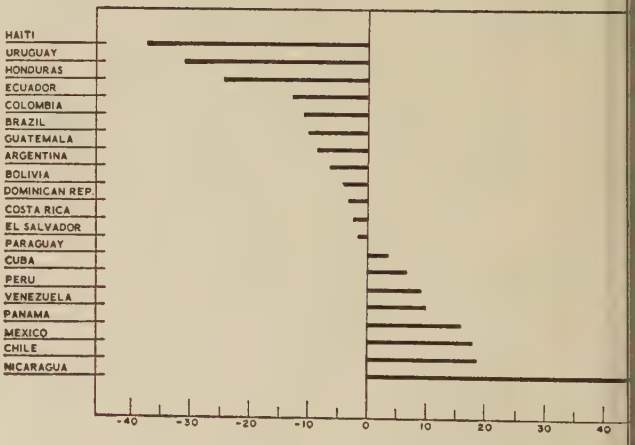
Latin America's balance of payments was slightly m unfavourable than in 1954. The reduction in the tr balance, which could not entirely be offset by the sm rise in the net inflow of capital, was the direct cause this deterioration.

Needless to say, these factors have all affected individual countries of Latin America in a different w and to a different degree. But it should be noted t the contrasts became more pronounced during 19 Figure VI shows how far the countries diverge from another as regards increases or decreases in the curr value of their exports.

Figure VI

LATIN AMERICA: PERCENTAGE CHANGE
THE CURRENT VALUE OF EXPORTS
BETWEEN 1954 AND 1955

Natural scale



The dissimilarities in this respect have been m marked, as a result of variations in the volume of ports and in the prices of the commodities which ex the strongest influence in each case. But there were a considerable discrepancies in the import sector. Table identifies the factors which affected the foreign trade each individual country in the region during 1955. though a general analysis of these trends follows lat some examples of outstanding situations should be not Mexico and Venezuela raised their imports far less th their exports; Argentina and Bolivia, conversely, ported much more while their exports declined; a Brazil obtained a small surplus in its balance of p ments, thanks to a 20 per cent reduction in its impo

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[1] At 1950 prices.

[2] This increase has resulted in a surcharge of some 15 per cent on the transport costs of the region's imports, which represents an approximate increment of 1 per cent in c.i.f. prices.

Table 19. Latin America: Trade trends in 1955

(Millions of dollars)

untries[a]	Exports				Imports		
	Quantum		Unit value	Current value	Quantum		Current value
	1954 at 1950 prices	*Percentage variation in 1955*	*Percentage variation in 1955*	*Variation in 1955*	*1954 at 1950 prices*	*Percentage variation in 1955*	*Variation in 1955*
GRAND TOTAL	6,895	6.4	— 6.2	31	6,671	2.1	228
....	4,311	13.6	— 7.6	249	4,010	— 0.4	—108
(*a*) Total	2,984	14.1	— 1.7	398	2,353	6.2	200
Venezuela	1,498	14.4	— 4.1	165	819	7.0	35
Mexico	613	23.2	— 1.0	143	718	7.3	97
Chile	309	6.6	10.5	72	297	6.9	33
Cuba	600	14.4	— 3.7	36	489	7.2	61
Nicaragua	38	59.6	— 8.8	25	68	— 2.9	— 4
Paraguay	24	3.2	—	1	32	—15.2	— 4
(*b*) Total	1,327	12.4	—18.5	—149	1,657	—10.0	—308
Brazil	1,190	13.6	—19.7	—139	1,503	—11.9	—324
Costa Rica	61	5.5	— 7.5	— 2	74	1.7	1
Guatemala	76	0.3	— 7.8	— 8	80	23.8	15
....	2,486	— 6.2	— 3.4	—261	2,591	6.2	318
(a) Total	279	8.4	1.4	26	337	15.1	56
Peru	254	7.2	1.8	22	247	20.1	50
Panama	25	20.6	— 4.0	4	90	1.9	6
(*b*) Total	2,207	— 8.0	— 3.8	—288	2,254	4.9	258
Argentina	1,059	—12.8	4.8	— 90	892	15.8	258
Colombia	492	— 1.0	—10.4	— 73	606	— 1.1	— 1
Uruguay	244	—14.2	—14.3	— 66	293	—23.8	— 49
Ecuador	73	4.7	—16.6	— 13	118	—12.5	— 15
Bolivia	80	— 5.7	1.6	— 4	84	60.9	50
El Salvador	66	16.9	—15.0	— 1	80	3.5	6
Haiti	37	—19.2	—22.4	— 21	44	—17.3	— 8
Dominican Rep.	103	11.7	—13.4	— 4	87	11.3	13
Honduras	53	—30.9	9.6	— 16	50	9.1	8

Source: National statistics; some of the 1955 statistics are estimates.

[a] The countries have been divided into four groups as follows: I. Those with a favourable balance of payments, and (*a*) an increase in e current value of their exports, or (*b*) a decline in the current value of their exports; II. Those with an unfavourable balance of pay- ents, and (*a*) an increase in the current value of their exports, or (*b*) a decline in the current value of their exports.

The disequilibria, extremely serious in some cases, hich have appeared or have become more acute in veral countries since the final months of 1954, were flected in the trade and exchange policies of the coun- ies concerned. Such disequilibria are fundamentally due the unequal growth of imports and exports. (See gure VII.)

The situation prevailing at the beginning of 1955 led e countries with a balance-of-payments deficit to re- force restrictions on imports, following the normal ocedure for such controls. Simultaneously, and with eater vigour than before, Governments renewed their forts to encourage domestic production, in order both raise the export quantum and to further the process import replacement. Measures were also adopted to npart greater flexibility to the outflow of export com- odities, their trend being towards a reduction in the dministrative controls applied and in the overvaluation exchange rates. This new policy—especially as regards rgentina—is too recent to allow its results to be as- ssed.[3] But it is already evident that such measures have acted as a major stimulus to wool exports from Argentina and Uruguay. Nevertheless, the attempts of the Latin American countries to increase their resources by means of greater exports, in the case of most products, encounter serious obstacles deriving from the instability of prices and demand on markets outside the region.

II. THE BALANCE OF PAYMENTS

The year 1955 witnessed substantial fluctuations in the balance-of-payments situation of the Latin American countries in relation to 1954; in most countries they arose from the marked changes in the capacity to import and, in some cases, from modified import policy. (See table 20.) The variations in the value of exports largely determined the changes in the capacity to import.

A considerable deficit replaced the surplus of the preceding year in Argentina, Bolivia, the Dominican Republic, Ecuador and Honduras, while the previous deficit increased substantially in Colombia and Uruguay. In

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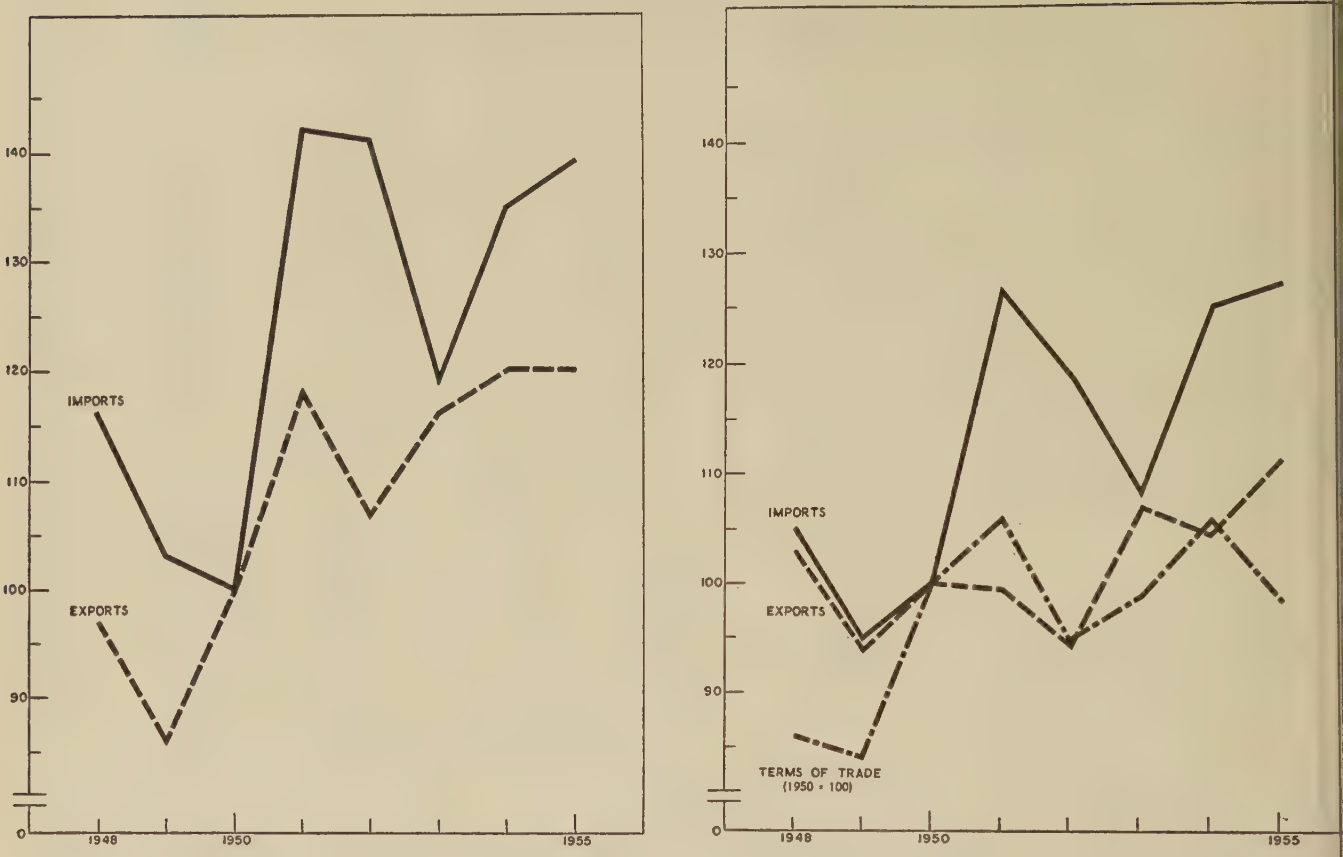
[3] It would likewise be premature to analyse the new policy pur- ed in connexion with trade treaties and payments agreements. he multilateral agreement between Brazil and the "Hague Club" ok effect only in the final months of 1955, while the international pects of the change in Argentina's trade policy have not gone beyond the stage of preliminary contacts. This change presents problems which require detailed study, the most significant, perhaps, being the maintenance, within a multilateral system, of the reciprocal credits included in bilateral agreements, which have proved very useful in recent years and in 1955 as well.

Figure VII

LATIN AMERICA: CURRENT VALUE OF AGGREGATE IMPORTS AND EXPORTS

Natural scale



Quantum of imports and exports

Payments capacity of exports and the terms of trade

contrast, Chile, Cuba, Guatemala and Mexico, which had suffered a deficit in 1954, reacted favourably in 1955. The same occurred, although to a lesser extent in Paraguay. Brazil was able to correct the serious disequilibrium which had characterized the evolution of its balance of payments during 1951-54; Venezuela showed a considerable increment in its balance-of-payments surplus. Only Costa Rica, El Salvador and Peru experienced no major changes, in relation to 1954, in the positive or negative balance of their foreign accounts, which continued to be insignificant in size.

A glance at statistics for the whole region shows that the favourable and unfavourable balances largely offset one another and, although liabilities were finally greater than assets, the deficit was small in relation to the sum total of the external transactions which were carried out during the year. The existence of similar circumstances in 1954 deprives such over-all data of much of their significance.[4]

1. TRENDS IN THE CURRENT ACCOUNT OF THE BALAN
OF PAYMENTS

(a) *Trade*

The aggregate value of Latin America's exports
1955 remained at a level similar to that of 1954. Th
was a consequence of the differing evolution of the volu
and the average price of exports, the former having be
6 per cent higher and the latter 6 per cent lower th
in 1954. Since the aggregate value of imports in 19
was more than 200 million dollars greater than in t
preceding year, the favourable trade balance, which h
been over 650 millions in 1954, fell to some 430 millio
in 1955. (See again table 20.)

It should be pointed out that no fewer than six cou
tries—Venezuela, Mexico, Chile, Cuba, Nicaragua a
Paraguay—all had surpluses arising from greater expo
(including revenue from the tourist trade in the ca
of Mexico and Cuba). Brazil also recorded a favoura
trade balance, but it resulted from a reduction in impor
Two countries, Peru and Panama, had deficits desp
increased exports. In the case of Peru, this developme
was attributed to the substantial inflow of capital wh

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[4] But the implications of such data had been of great importance in 1953, because a considerable and almost universal decrease in imports had resulted in large surpluses in most of the countries, which had a cumulative effect for the region as a whole.

Table 20. Latin America: Trade and the balance of payments, 1955

(Millions of dollars at current prices)

untries[a]	Exports 1955	Percentage variation 1955/54		Trade balance		Balance of payments	
		Exports	Imports	1954	1955	1954	1955
GRAND TOTAL	7,787.5	—0.2	2.9	656.6	434.5	— 66	— 96
....	5,288.0	4.9	2.5	632.6	990.0	—172	386
(*a*) Total	3,684.0	12.1	7.7	678.2	876.0	— 95	338
Venezuela	1,855.0	9.8	3.8	771.6	902.0	16	92
Mexico	663.9	17.5	11.0	—148.3	—128.1	— 40	161
Chile	475.8	17.7	9.6	60.2	98.8	— 25	45
Cuba	575.0	10.2	1.7	12.0	— 13.0	— 35	35
Nicaragua	79.2	45.6	— 5.3	— 13.2	15.2	— 6	2
Paraguay	35.1	3.2	—10.8	— 4.1	1.1	— 5	2
(*b*) Total	1,604.0	— 8.5	—17.1	— 45.6	114.0	— 77	48
Brazil	1,423.2	— 8.9	—19.9	— 69.5	116.2	— 74	39
Costa Rica	80.7	— 2.3	2.2	2.0	— 1.3	1	4
Guatemala	100.1	— 7.5	17.1	21.9	— 0.9	— 4	5
....	2,499.5	— 9.5	11.6	24.0	—555.5	105	—482
(*a*) Total	291.8	9.9	16.6	— 74.1	—104.2	11	— 15
Peru	255.5	9.2	20.1	— 12.0	— 40.5	7	— 10
Panama	32.3	15.8	6.2	— 62.1	— 63.7	4	— 5
(*b*) Total	2,207.7	—11.5	10.9	98.1	—451.3	94	—467
Argentina	959.9	— 8.6	26.7	81.5	—267.1	100	—220
Colombia	583.9	—11.1	— 0.1	— 14.9	— 87.1	— 15	—125
Uruguay	183.1	—26.5	—18.0	— 25.5	— 41.9	— 30	— 53
Ecuador	88.3	—12.7	—12.2	— 19.5	— 17.7	5	— 11
Bolivia	87.9	— 4.1	66.0	16.4	— 37.1	11	— 34
El Salvador	104.2	— 0.8	7.3	18.3	11.2	20	— 7
Haiti	34.9	—37.1	—15.7	7.9	— 5.1	5	...
Dominican Republic	114.9	— 3.4	—13.1	24.3	7.9	15	— 11
Honduras	50.6	—24.4	14.7	9.6	— 14.4	1	— 6

Source: Official data.

[a] For the grouping of the countries, see table 19.

l to purchases abroad whose value exceeded that of
ports. The other countries in general showed un-
vourable trade balances, mainly caused by the reduction
their exports, which was substantial in Argentina,
olombia and Uruguay. (See again table 19.) It should
noted that Argentina, which until a few years ago
nked as the largest exporter in the region, has held
ly third place since 1952. The further decline in its
ports during 1955 emphasized this situation even more.

The aggregate trade balance of those countries that
owed a surplus stood at 1,266 million dollars, of which
130 millions were contributed by the countries which
d attained this position through an expansion of their
ports. The unfavourable balance of the remainder—
7 million dollars—was accounted for mainly by the
untries whose exports decreased during 1955.

The geographic distribution of trade underwent some
odifications. Exports of Latin American products to
e United States witnessed a minor improvement after
o slack years which largely arose from the larger
lume of exports of petroleum and iron ore, to the slight
e in sugar exports and to the higher prices for copper.
it it should be noted that a greater share of both sugar
d copper exports were shipped to European markets.
eavier exports to Western Europe in 1955 sustained
e trend visible since the early post-war years; they were
most 5 per cent higher than in 1954 (see table 21).
contrast, exports to Japan dropped by 21 per cent.
though complete data are not available on which to
base an analysis of inter-Latin-American trade or of that maintained with the countries of Eastern Europe, it seems clear that the former declined during 1955, whereas the latter reached a somewhat higher level, mainly because of sugar exported by Cuba and Mexico to the Soviet Union and the increase in Argentine imports from that area.

Table 21. Latin America: Indices of variation in the distribution of trade, 1955

(1954 = 100)

Exports	United States[c]	Canada[b]	Western Europe[c]	Japan[d]
From Latin America	101.4	102.1	104.8	79.1
To Latin America	97.9	86.1	104.9	82.2

Source: Official statistics.

[a] Annual imports and exports for 10 months.

[b] Annual exports and imports for 11 months.

[c] Including 19 countries and data for 9 months.

[d] Ten months.

As regards the origin of Latin America's imports, a new decrease took place in acquisitions from the United States, Canada and Japan, while shipments from Western Europe increased. Nevertheless, the reduction in purchases from the United States during 1955 was entirely caused by the situation in Brazil. While Brazilian imports from this source dropped by the large sum of 200 million dollars, the other countries of the region raised their aggregate purchases from the United States by 100 millions. Mexico, Venezuela, Chile and Argentina, in that order, were among the countries where such imports increased most rapidly in 1955.

(b) *The rise in cargo rates*

One of the determinants of the increase noted in the value of Latin America's imports was the higher rate charged for the transport of cargoes. (See table 22.) Between July 1954 and the end of 1955, the various categories of maritime freight tariffs rose in very d ferent proportions, although the increment was substa tial in most cases. World indices published to date i creased for cargo boats without a fixed itinerary fro 85.4 to 141.6 and from 67.6 to 154.1 (1947 = 100 depending upon whether the contract was for a sing journey or for a specific period of time; in the ind for tankers the increment was even more spectacula from 56 in July 1954 to 248 in December 1955, aft violent fluctuations in the interim. The annual averag for 1954 and 1955 rose by 40 and 70 per cent in t case of tramp ships and by more than 55 per cent f tankers.[5] Other sources—especially the official West German index and that of the United Kingdom Chamber of Shipping—show increments of the same size. The latter, for example, recorded increases ranging from 45 to 53 per cent between 1954 and 1955 in the averages for the transport of coal, cereals and sugar in cargo boats without a fixed itinerary. The cost of carriage of general cargo by shipping on regular routes rose to a much smaller degree, as was natural, since the rates on such lines are always more stable than those of other types of shipping. The West German official index—which covers regular shipping under any flag and may thus be considered representative of the world trend—shows an increment of 12.5 per cent between July 1954 and December 1955. But to judge from other information,[6] it appears that up to the end of 1955 regular United States shipping lines were charging almost the same rates as those in force a year previously.[7]

Table 22. Latin America: Net balance of the different transactions on current account, excluding merchandise[a]

(Millions of dollars)

Countries	*Transport and insurance*		*Non-financial[b] services*		*Remittance of profits and interest*	
	1954	*1955*	*1954*	*1955*	*1954*	*1955*
Argentina	— 72.6	—127	— 27	— 30	— 12.4	— 18
Brazil	—158.5	—140	— 82.4	— 90	—138.9	—109
Colombia	— 91	— 95	— 37.3	— 43	— 15.3	— 20
Cuba	— 47.1	— 53	10	16	— 32.2	— 34
Mexico	— 10.9	— 11	—203.5[b]	—228	—112.5	—140
Uruguay	— 37.6	— 32	— 2.9	— 1	— 5.1	— 3.0
Venezuela	—109.2	—123	— 97.4	—110	—464.9	—515
Others	—179.6	—208	6.7[c]	12[c]	—117.5	—143.3
TOTAL	—706.5	—789	— 26.8	— 17	—898.8	—982

Source: International Monetary Fund.

[a] Figures for 1955 are partly estimates. This table also excludes public and private grants.

[b] Non-financial services mainly include expenditure and revenue on account of patents and registered trade-marks, of various government transactions and of tourist trade.

[c] Increased revenue for the Republic of Panama from the Canal offsets the greater expenditure of the other countries.

The reason for the higher maritime transport rates lies in the expansion of world trade during the past 18 months. The index of the quantum of world exports rose from 101 to 110 between the third quarters of 1954 and 1955 (1953 = 100); in other words, it advanced much more rapidly than the increment in the available cargo space The volume of trade with Western Europe increased fa more than that with other regions and was also cha acterized by a disproportionate growth of bulk carg and of the transport of liquid fuels.[9]

The effects of the rise in freight costs upon the un price of Latin America's imports appear to have bee weaker than those revealed by the world trend. This partly because a relatively large share (more than on fourth) of these imports is composed of general carg earned by regular shipping lines and partly because th freight charges of ships under the United States fla rose less, an important consideration, since the Unite States provides almost half of aggregate Latin America imports. An additional influence may have been the fa that the total volume of the region's imports increase very little. Furthermore, approximately one-seventh all Latin America's trade is carried overland.

These factors, whether favourable or unfavourabl affected the various individual countries in differin degrees. Mexico, whose sea-borne trade is limited ar n addition is mainly carried on with the United States, hardly suffered at all from the higher transport costs. Nor did the countries of Central America and the Caribbean feel their effects to any great extent, as these republics trade mainly with the United States and import a high proportion of general cargo. The consequences were somewhat more noticeable for the Pacific Coast countries of South America, although, except in the case of Chile, their imports of liquid fuels are small. In contrast, the combined effects of high volumes of bulk cargo, liquid cargo and trade with Europe were felt in those countries whose imports are brought by the South Atlantic route. But these latter have also derived higher revenue from their own merchant shipping.

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[5] See *Norwegian Shipping News*, January 1956.

[6] See *Export Trade and Shipper*, New York.

[7] As from January 1956, the West Coast of South America Northbound Conference raised transport rates for South American copper by 20 per cent.

[8] The net annual increase in world shipping is estimated about 3 per cent.

[9] The volume of crude petroleum transported by tankers has i creased by 50 per cent during the last three years. The amount coal carried doubled between 1938 and 1953. There were al increments, although proportionately smaller, in the volume of t trade in cereals and sugar.

In view of these considerations, as well as the composition of the volume of Latin America's imports,[10] the surcharge originating from the higher cargo rates in 1955 may be estimated to have varied between 12 and 15 per cent for the region as a whole.

(c) *Other items in the current account*

As in previous years, transactions arising from tourist activities were mainly concentrated in Mexico.[11] In 1955, the inflow of United States tourists, which had increased after the peso devaluation of 1954, became still greater, and thus reinforced the favourable influence of higher exports on Mexico's capacity to import. Tourist receipts also rose in the Caribbean countries. On the other hand, to judge from incomplete data, tourist expenditure on the part of Brazil, Chile and Mexico declined somewhat, perhaps because of the sharp rise in the free market rates of exchange. Expenditure of Mexican tourists abroad also decreased.

Official grants from Governments outside the region—particularly those from the United States under its external aid programmes—were of little significance in relation to the aggregate income of Latin America; but in some countries they played an important part. In the case of Bolivia, for example, such grants from the United States were higher than in 1954 and caused the capacity to import to rise by 21 million dollars, that is, by 22 per cent. Similarly, Guatemala and Haiti received grants-in-aid which contributed to a definite improvement in their exchange situation.

The very high proportion of the remittances of profits and interest channelled to the United States is a traditional feature of the region's balance of payments. Most of these transfers were made by Venezuela, Brazil, Mexico, Chile and Peru, countries where foreign investment is substantial. (See again table 22.) Except as regards Brazil, the remittances made by these countries rose in 1955, but this increment was not so great as to modify the favourable trend in the current accounts concerned. In point of fact, it mainly resulted from the intensified activity of the export sector, principally due in its turn to the foreign investments made in previous years.[12] The decline in Brazil's transfers may be attributed to the reinvestment of a large share of the profits within the country, which was doubtless a consequence of the higher exchange rates applied to financial remittances transferred abroad.

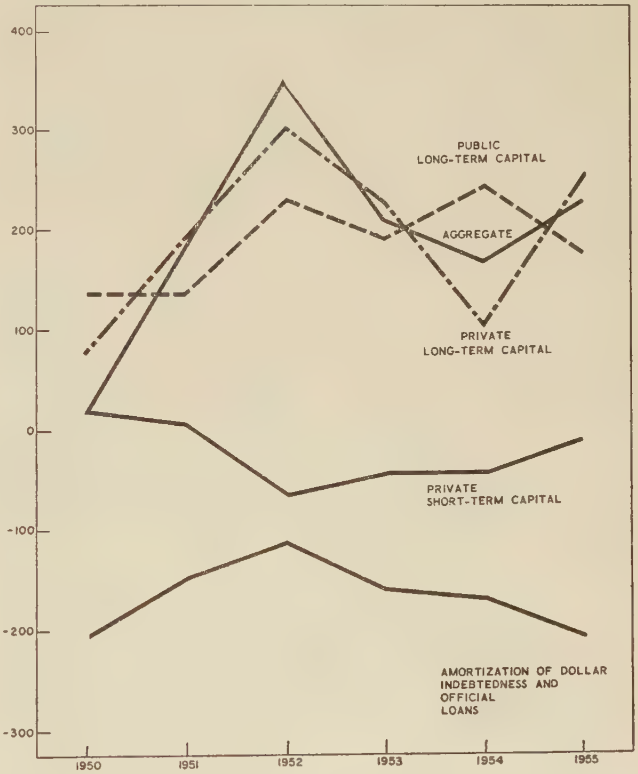
2. TRENDS IN THE CAPITAL ACCOUNT AND NEW FOREIGN INVESTMENT

After two years in which the favourable balance in the capital account had decreased substantially, there was an appreciable increment in net income during 1955. The considerable increase in private investment, which had fallen in 1953-54, was the major determinant of this upswing of income, and offset the drop in long-term official loans. (See figure VIII.)

Figure VIII

LATIN AMERICA: AGGREGATE AND ITEMIZED BALANCES IN THE MOVEMENT OF CAPITAL

Natural scale



The short-term capital account as a whole underwent certain favourable modifications; if the situation changed for the worse in some countries, it showed a notable improvement elsewhere. Incomplete data show that the outflow increased in several Central American countries, Bolivia, Chile and, particularly, in Uruguay, while it was reduced in Cuba and Mexico. In the latter country, capital began to be repatriated as a result of the favourable evolution of the economy after the devaluation in 1954.

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[10] Studies of Latin American imports in 1952 gave the following break-down of a total of 31 million tons: 15.5 million tons of liquid fuels; 8.7 million of general cargo and 6.8 million of bulk cargo.

[11] In 1954 it was already calculated that Mexico received 20 per cent of the total expenditure—exceeding 1 billion dollars—of United States tourists travelling abroad.

[12] Despite the insignificance of the figures involved, the increase in remittances by Argentina, especially to the United Kingdom, should be noted. At the end of March 1955 an agreement was signed providing for the transfer of interest and profits for a sum of 1.5 million pounds sterling up to the end of June 1956.

The decline in the inflow of official long-term capit during 1955 contrasted with the previous increase an was partly due to smaller disbursements on loans autho ized by the Export-Import Bank. (See table 23.)

Table 23. Latin America: Development loans of the Export-Import Bank and the International Bank, 1954-5

(Millions of dollars)

	New authorizations				*Disbursements*			
	1954		*1955*		*1954*		*1955*	
Countries	*Eximbank*	*IBRD*	*Eximbank*	*IBRD*	*Eximbank*	*IBRD*	*Eximbank*	*IBR*
Argentina	2.5	—	60.1	—	1.6	—	—	—
Brazil	19.1	18.7	8.6	—	47.0	32.0	41.4	14.
Colombia	1.2	5.0	2.8	20.4	5.1	8.1	0.2	12.
Mexico	2.4	61.1	28.1	—	37.2	8.3	4.5	33.
Peru	98.5	1.7	1.3	25.5	0.1	1.5	0.1	7.
Others	29.7	24.6	19.9	42.8	17.3	18.6	26.6	8.
TOTAL	153.4	111.1	120.8	88.7	108.3	68.5	72.8	76.

Source: Official publications of the United States Export-Import Bank (Eximbank) and of the International Bank for Reconstructio and Development (IBRD).

This is all the more striking because the amount of the development loans authorized in 1954 had increased considerably.[13] On the other hand, the new loans authorized by the Export-Import Bank were also smaller in 1955, even though a credit of 60 million dollars was granted to Argentina for the installation of an iron and steel plant.[14] The International Bank for Reconstruction and Development transferred slightly more capital to Latin America than in 1954, while new loans decreased in size. Outstanding among the latter were credits granted to Peru and Colombia for 26 million and 20 million dollars, respectively.

The economic activities which benefited most from loans granted by these two banks were still transport and agriculture. But there was an increase in the loans for industry and the production of energy, while those for mining decreased. Thus, in 1955 greater importance was attached as a rule to activities directly concerned with meeting basic national needs than to the export sectors. The disbursements made by the two banks mainly favoured Brazil, Colombia, Mexico, Peru and several Central American countries.[15]

Nevertheless, as repayment of another series of development loans granted in the post-war period by both banks has now begun, the weight of amortization borne by Latin America as a whole continued to rise and in several countries exceeded the lower receipts, in strong contrast with the considerable positive balance recorded in 1952-54.

No data are available for a table giving detailed statistics on new private investment of foreign origin during 1955. To judge from incomplete information, heavier private investment by the United States after 1954, and the probable maintenance of a higher level of investment by other countries, were the two main factors in the improvement which took place during 1955 in the long-term private capital account.[16]

But, to grasp the full significance of the increase in 1955, it should be noted first and foremost that the inflow of private capital from abroad during 1954 was of limited importance in relation to such receipts in 1951 and 1952. (See again figure VIII.) Moreover, the remittances of profits on foreign investment reached some 750 million dollars in 1955 and continued to be far in excess in the inflow of private long-term capital.[17]

As in 1954, a large proportion of the new capital entering Latin America was channelled towards industry and trade. Despite the appreciable volume of investment in the petroleum sector, the amount of capital received by mining as a whole could not be compared with the substantial sums invested during 1950-53. A brief examination of the situation in a few countries will illustrate the foregoing statements more clearly and will show the geographic distribution of the long-term capital inflow.

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[13] For example, no disbursement has been made from the 100-million-dollar loan granted to Peru, which represents about two-thirds of the regional total authorized in 1954.

[14] Nevertheless, it should be noted that the Export-Import Bank has declared its intention to expand its operations in the future; the decision to sell its portfolio bonds to private investors confirms this statement. Again, new loans and disbursements for stabilization increased during 1955.

[15] In the investment field, the proposed creation of an International Finance Corporation has opened up prospects whose full scope cannot yet be assessed. In 1955, the United States acceded to the new Institution and laws were passed in Costa Rica, Ecuador and Haiti authorizing the Governments to become members.

[16] To these factors may be added the lower Latin American purchases of bonds in the United States, in so far as this decline did not represent a reduction in the short-term investment of the reserves of central banks. Information is not available on the share contributed by such investments over the short and the long term. In 1954, the total had increased substantially and it seems that most of the increment arose from short-term purchases by the Banco Central de Cuba. As regards efforts to expand future investment in Latin America, mention should be made of the Inter-American Conference, held at New Orleans, and attended only by private businessmen and companies. During this conference it was decided to create a private investment trust which will sell its shares in the United States and invest the capital received in new private enterprises in Latin America. The target fixed for the successive sales of shares is a total of 100 million dollars.

[17] For methodological reasons, the discussion of these remittances appears in the analysis of the current account. (See above p. 26, for the significance of the increase in such remittances.)

During the post-war period, the largest share of aggre-ite foreign investment in the region was placed in enezuela, and almost entirely in petroleum production. ne inflow of capital for this purpose declined later hen profits were reinvested, but the development of on-ore mining implied new and substantial capital ceipts in dollars. In 1954-55, investment in iron ore me to an end, but other sectors began to attract foreign pital, particularly industries to produce rubber, tyres nd petro-chemical products. Furthermore, although it as not yet led to an inflow of capital, a contract has en signed between the Venezuelan Government and o Italian companies for the investment of 173 million ollars in an iron and steel plant.

Investment in the petroleum industries of Colombia nd Peru continued to decline, probably because the sults obtained from drilling and prospection were not ery promising. But in Peru the decrease was offset by crements derived from new sums invested in trade, as ell as in heavy and light industry. Similarly, in Chile nd Mexico, the industrial sector—particularly the chem-al and manufacturing industries—received more capital om abroad than in 1954. To judge by the investments ready authorized, the legislation on foreign investment dopted by Chile in 1954 appears to have had a very vourable reception in Western Europe and the United tates.[18]

On the basis of the few data available, it may perhaps e stated that the inflow of capital rose somewhat in razil.[19] About half of these new investments were placed n the manufacturing sector.

It is well known that in 1953 Argentina established a ew statute relating to foreign investment, whose volume ad been small in the immediate post-war period. At the ose of 1955, investments authorized under this altered égime amounted to some 40 million dollars, much of hich appears to have already taken the form of ma-hinery and equipment brought in especially for the echanical industry. A trend towards greater activity on ne part of foreign investors was thus apparent; but the upply of such capital to date is very far from meeting alance-of-payments and economic development require-nents. It is hoped that the devaluation of the Argentine eso, decreed in October 1955, will not only encourage xports but will also provide a stimulus for foreign in-estment. Furthermore, imports of capital goods without ne use of foreign exchange were once again authorized n some cases.

. THE BALANCE-OF-PAYMENTS SITUATION AND FINANCING METHODS

The net balance-of-payments situation of Latin Amer-ca as a whole was unfavourable in 1955, the deficit mounting to some 100 million dollars. This negative alance primarily reflects the behaviour of the balance of payments in Argentina, Bolivia, Colombia and Uruguay, although other countries contributed to the result in a much smaller degree. It was the evolution of exports that exerted the greatest influence both in most of the countries with a deficit and in those where a surplus was recorded in the balance of payments. (See again table 20.)

An examination of the nine countries which had a favourable balance in 1955 shows that in six of them—Venezuela, Mexico, Chile, Cuba, Nicaragua and Paraguay—the surplus reached 338 million dollars and was mainly determined by the increase in exports. On the other hand, of the eleven countries where an unfavourable balance existed, nine—Argentina, Colombia, Uruguay, Ecuador, Bolivia, El Salvador, Haiti, the Dominican Republic and Honduras—had a deficit principally resulting from the contraction of their sales abroad. The total negative balance of these nine countries amounted to 467 million dollars.

But the revenue derived from non-financial services and the inflow of capital—although it generally had only a limited effect on the final result of the balance of payments—did serve in some cases to improve the favourable position caused by the trade balance and in others to offset the imbalance arising from trade.

Among the countries with a favourable balance, Venezuela is outstanding for the size of the surplus. A new peak in petroleum sales chiefly accounted for the substantial increment in the favourable balance in relation to 1954. The notable improvement in Mexico was largely due to greater exports—especially of cotton—and to higher receipts from the tourist trade, although an increase in long-term investment and a smaller outflow of short-term capital both made a contribution. The pronounced improvement in Mexico's balance-of-payments situation represented a vigorous reaction to the problems which had arisen during the first half of 1954.

The favourable balance in Cuba was attributable to similar causes, although they operated less intensively. The situation in 1955 also contrasted with the deficit in the previous year. Chile too found itself in a better position, thanks to the combined action of an increase in the volume of its exports and an improvement in the terms of trade. Higher exports were also the main element determining the surplus in Nicaragua's balance of payments.

Conversely, Brazil, Costa Rica and Guatemala, which showed a favourable balance in their foreign accounts, witnessed a decline in their exports. Guatemala's small positive balance arose from an increase in official grants. In Brazil the surplus was the consequence of a large reduction in imports aimed at the adjustment of expenditure to a lower level of income. Furthermore, the sum of the external commitments contracted during previous years, in order to relieve exchange difficulties, apparently exerted pressure in Brazil and made it necessary to stabilize the balance of payments during 1955.

Argentina should be mentioned first among the countries which showed a deficit, because of the considerable size of the unfavourable balance. The decline in exports of cereals led to a substantial decrease in the capacity to import which, combined with some expansion of imports, caused a deficit of some 200 million dollars as compared with a surplus of 100 million in 1954. In

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[18] The new legislation for the copper-mining industry, adopted n early 1955, also appears to have been well received. Some of he producing companies have announced a considerable expan-ion of their investments for 1956.

[19] Aggregate foreign investment rose by 45 per cent, but this was nainly due to the increased reinvestment of profits. In turn, the igher reinvestment arose more from the decision to reduce the ransfer of profits than from a definite policy to raise investment.

Uruguay, also, despite the contraction of imports, reduced exports and lower prices—especially for wool—united to weaken the balance-of-payments situation. The drop in export values, caused by lower coffee prices, and some delay in adapting expenditure to the subsequent reduction in the capacity to import, determined a deficit of more than 100 million dollars for Colombia; the previous surplus in Ecuador also became a deficit. But increased imports in Peru were offset by a substantial inflow of capital and the negative balance was thu small. The continued deficit in Bolivia was caused b greater purchases abroad during 1955. (See agai table 21.)

As in previous years, the methods of financing balanc of-payments deficits differed in the countries which fa within the dollar area and in those outside it. (Se table 24.) But it is interesting to note that the Unite States granted new consolidation loans to Brazil for a longer term (up to eight years), and these loans are to be used to liquidate short-term commitments. On the other hand, some countries—especially Argentina, Chile and Colombia—bought surplus agricultural products from the United States Government; they were thus able to save convertible exchange, since such purchases were made in national currency. Lastly, the trend towards an increase of medium-term credits should be noted; they are called "deferred payments" and are granted by various European countries to finance imports of equipment.[20] Bolivia was one of the main beneficiaries under this system and was able to cover its deficit through the use of such credits.

Table 24. Latin America: Means of financing the balance of payments, 1954-55[a]

(Millions of dollars)

Countries	Gold and exchange reserves[b]		Payments agreements		Trade arrears		Short-term credit		Consolida-tion loans
	1954	1955[c]	1954	1955[c]	1954	1955[c]	1954	1955[c]	1955[c]
Argentina	—113	+ 20	+24	+190	+13	—	— 24	+ 10	—
Brazil	+ 27	— 49	—66	—	—97	—26	+210	—143	+179
Colombia	— 83	+100	+ 2	—	+56	+25	+ 40	—	—
Cuba	+ 28	— 39	— 3	—	—	—	+ 10	+ 4	—
Mexico	+ 17	—204	+ 1	—	—	—	+ 22	+ 43	—
Uruguay	— 8	+ 30	+48	+ 20	— 8	+ 3	— 2	—	—
Venezuela	— 3	— 76	—	—	—	—	— 13	— 16	—
Others	— 14	— 9	+15	— 8	— 3	+22	— 8	+ 20	—
TOTAL	—149	—227	+21	+202	—39	+24	+235	— 82	+179

Source: International Monetary Fund.

[a] The share of errors and omissions corresponding to clearing accounts has been included.

[b] For the account of gold and exchange reserves, the sign (—) represents an increase in the reserves; in fact, for book-keeping purposes, the account does in fact receive an asset. The sign (+) represents an outflow.

[c] The figures for 1955 are partly estimated.

Argentina and Uruguay—which are outside the dollar area and normally transact most of their foreign business with inconvertible currency areas—financed a high proportion of their deficit by means of credits included in their bilateral payments agreements. (See again table 22.) But Colombia and Ecuador were obliged to resort freely to their holdings of gold and convertible currency to cover the deficit in their foreign accounts. Although Haiti, Honduras and the Dominican Republic used such reserves to a far smaller extent, in absolute terms, they also had to use a larger relative share of their aggregate holdings.

Elsewhere, of the countries which showed a surplus of some size, Venezuela, Mexico and Cuba increased their gold and dollar reserves. The same was true to a lesser degree of Guatemala. Chile, which is not in the dollar area, liquidated a proportion of its outstanding trade debts and of the deficit which had accumulated in the accounts of its bilateral agreements.

Brazil recorded both an increase in reserves and a substantial reduction in the short-term commitments contracted in former years, which had reached a high level. Nevertheless, the surplus in Brazil was caused by a sharp curtailment of imports; in fact, the favourable situation of the short-term commitments mainly arose from the consolidation loans mentioned above, which were granted by private banks and official institutions in the United States.

III. TRADE AND EXCHANGE POLICY IN LATIN AMERICA

One of the most striking features of the year 1955 was the lack of correlation between export and import trends in a number of Latin American countries. Argentina and Bolivia made considerably more purchases abroad, despite the decline in their exports; the same was true, although to a lesser degree, of Costa Rica, the Dominican Republic, El Salvador, Guatemala and Honduras. The position was reversed in Nicaragua and Paraguay, where the expansion of exports and the contraction of imports enabled these two countries to restore equilibrium in their balance of payments. Outstanding examples of disparity in the evolution of exports and imports are also ovided by Colombia and Brazil. In Colombia, imports mained at almost the same level, although exports creased by 11 per cent; whereas in Brazil a much eater reduction was recorded in imports than in sales road.

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[20] Under this system, some of the national currency derived from the sale of the surpluses is loaned to the recipient country for purposes of economic development and can be reimbursed in dollars over a period of up to thirty years. Consequently, these transactions may be regarded, up to a point, as development loans. The same is true of the consolidation loans, in view of the period allowed for their amortization, and of the "deferred payments", since they can be used to import capital goods.

All these situations, apparently differing widely from e another or even in complete contrast, reflect the istence of one and the same basic problem. The pres- re of domestic demand—not only to satisfy direct con- mer demand for imported goods, but even more to pply industry—tends to grow more rapidly than the sources derived from exports. In some years this pres- re induces the country to effect more imports than e justified by the volume of such resources, and meas- es then have to be adopted to stabilize the balance of yments.

If 1950 is taken as the base year,[21] the volume of nports can be seen to have increased 27 per cent by 955, while exports expanded by only 11 per cent and e terms of trade became slightly unfavourable. These gures give a clear idea of the gravity of the problems fecting the Latin American countries, especially if it is membered that the share of imports in the formation f the gross national product amounts to approximately 6 per cent, and that many republics have been compelled cut down their imports of non-essential consumer oods. On the other hand, it is similarly obvious that the xtension and diversification of the external credit facili- es at the disposal of the countries of the region have omewhat eased the pressure of demand, although the act that mainly short-term credits are involved may affect e availability of future income.

Broadly speaking, it can be noted that official anxiety restore and encourage exports has been gradually in- reasing during the last few years. This largely accounts r the trend towards a progressive normalization of xchange régimes, designed to put an end to the external vervaluation of currencies. In the long run, this over- aluation has proved to exert a depressive influence on xports.

Without going into further detail, an attempt will now e made to indicate the characteristic features of some ecent developments, and to examine the means adopted remedy the situations in question.

1. Brazil

The value of Brazil's exports was very heavily reduced n 1955, partly because of the fall in coffee prices. This was not the main factor involved, as there was a notable ecovery in the volume of exports, after the sharp decline which took place in 1954. Even so, receipts from coffee were 97 million dollars less in 1955 than in 1954. Income rom cotton also decreased by 103 million dollars, in onsequence both of a much smaller volume of sales and f somewhat lower prices. Furthermore, the capacity to mport was affected, to an even greater degree, by the elayed action of previous disequilibria; in 1955, 210 million dollars were paid out on account of short-term rade debts accumulated over recent years. Some favourable factors partially mitigated the consequences of these adverse circumstances. Although the evolution of external markets resulted in a 255-million-dollar reduction in the value of exports of the three staple products, coffee, cotton and cacao, which produced only 1.052 billion dollars in 1955, the greater efforts made by domestic producers successfully raised the proceeds of exports of less important products (outstanding among which was pinewood) from 255 to 320 millions dollars, that is, by 25 per cent. Nevertheless, Brazil was compelled to enforce severe rationing of the foreign exchange at the disposal of importers. The contraction in imports amounted to 324 million dollars, expressed in current values, and to 12 per cent in terms of volume. The result was a favourable trade balance of 116 million dollars, thanks to which the current account of the balance of payments was stabilized.

So great a curtailment of imports was achieved by means of an exchange régime which enables the amount of foreign currency granted to importers—among whom it is distributed by a system of bidding—to be strictly established beforehand. In consequence of this policy, the country's debtor position was eased, the sum of its outstanding trade payments commitments was reduced and the rapid liquidation of those arising from recent purchases was ensured. On the other hand, the system of auctioning the scant supply of foreign exchange available for imports intensified the pressure exerted by the demand for foreign goods. Owing to the competition among importers, the agios paid over and above the old official rate rose rapidly and uninterruptedly, from an average of 22 cruzeiros to the dollar during the first few months of the new exchange régime (at the close of 1953), to over 80 in December 1955.

As regards the effect of the contraction in imports on their composition, preliminary indications, based on data for nine months, show a marked reduction in purchases of raw materials other than foodstuffs. Nevertheless, the indices of industrial activity continued to rise during the same period. Although the inadequacy of available statistics does not allow the importance of this factor to be assessed, there can be no doubt that the development of Brazil's own industry in recent years has led to the production of a number of items to replace imports, especially in the categories of spare parts for machinery, tools, chemical and pharmaceutical products, electrical appliances and processed materials. Not only have imports of this kind been replaced, but such commodities are also beginning to be exported, at least to neighbouring countries and to Chile.[22] All this is in conformity with the natural trend of Brazil's economic growth. However, the selective encouragement of investment in new branches of industrial production—a policy which has been pursued for several years now—has clearly helped to stimulate import replacement and to promote new lines of production for export. The development of mining in the Rio Doce valley has enabled exports of iron ore to be increased by 40 per cent, the foreign exchange proceeds approaching 30 million dollars.

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[21] The year 1950 was relatively favourable for Latin America rom the balance-of-payments standpoint, since it closed with a et surplus of 274 million dollars.

[22] Recent information confirms that alarm clocks were exported to Argentina, lorries and sewing-machines to Bolivia and various types of tools and machine tools to Chile. Data are also available on sales of electric adding-machines to Venezuela and Mexico. In the aggregate, the value of export permits for manufactured products rose from 5 million dollars in 1954 to 18 millions in 1955.

Among the measures adopted by the Brazilian authorities in 1955 with a view to maintaining or expanding exports, modifications of the exchange rates must also be mentioned. There was no question of putting a premium on exports, but rather of progressively adjusting the rates concerned to the level simultaneously determined by the inflationary rise in domestic costs and by the fluctuations of sales prices on foreign markets. Brazil's staple exports did actually benefit in 1955 from these adjustments. One of the most noteworthy was introduced in January, and took the form of the classification of export products in four categories with exchange bonuses—from 17.19 to 31.70 cruzeiros to the dollar—over and above the basic rate of 18.36 cruzeiros. Coffee, for which a special lower rate had originally been maintained, was included in the second category from February onward, a step which represented an increment of 10 cruzeiros to the dollar. Subsequently, half-way through the year, cotton, cacao, pinewood and tobacco were also transferred to a different category, the corresponding rate of exchange rising by 6 cruzeiros to the dollar. Most secondary products were then likewise accorded a more favourable exchange treatment. The remarkable recovery of exports in the second half of the year and the reopening of markets formerly lost must be attributed to these measures.[23]

Again, the entry into production of new petroleum refineries resulted in a saving of foreign exchange which is calculated at 17 million dollars yearly. Owing to the increase in consumption, however, effective expenditure continued to rise. Clearly this increment would have been greater had the development of domestic refineries not intervened. The figures for the first eleven months of 1955, compared with those for the same period in 1954, show that imports of petrol and fuel oils fell from 6.2 million to 4 million tons, while imports of crude petroleum expanded from 60,000 to 3.2 million tons. The volume of total imports, taken in the aggregate, grew by 16 per cent, and their value by only 3 per cent (5 million dollars).

2. COLOMBIA

The evolution of Colombia's foreign trade diverged considerably from that of Brazil in 1955. Both countries suffered the effect of the fall in coffee prices, but the situation in Colombia differed from that of Brazil inasmuch as the increase in the volume exported was negligible. Neither was any expansion registered for other products, so that the volume of Colombia's total exports declined slightly (by 0.9 per cent).[24] The index of their unit value, according to Colombian statistics, decreased by 10 per cent.[25]

Owing to a slight rise in average import prices, th terms of trade deteriorated in 1955 by over 11 per ce in relation to 1954. Imports, however, remained at almo the same high level which they had reached in the latt year, the consequence being a trade deficit of 87 millio dollars at current values. Again, foreign exchange reserv declined by 118 million dollars, that is, by 44 per cen despite the fact that the amount of trade payments i arrears which remained outstanding was estimated a about 100 million dollars.

The various measures adopted in the course of 195 to stabilize the balance of payments have been fully discussed in a recent document.[26] Such measures operate indirectly through a considerable increase in the exchang surcharge. The situation in Brazil was reversed i Colombia, where exchange surcharges were establishe beforehand without direct restriction of the amount o foreign exchange to be utilized. It would seem that thi indirect method proved slower and less effective in it operation, since the total value of Colombia's import was virtually the same in 1955 as in the preceding yea (672 million dollars in 1954 and 671 in 1955). It shoul be recalled here that the figure for 1954 represented a substantial increase—122 million dollars or 22 per cent—in relation to 1953. Nevertheless, an examination o monthly statistics clearly shows that the boom in import which characterized the last few months of 1954 ha already been halted in the first six months of 1955. Between July and December the contraction became muc more definite. From 366 million dollars during the latte half of 1954, imports fell to 350 millions in the firs six months of 1955 and to 321 in the second half of the year. Meanwhile, new measures adopted in October an November—more energetic, although still indirect—originated a sharpening of the downward trend, which became manifest in the early months of 1956, when the value of imports classified in the preferential and primary categories declined by a further 40 per cent. If this rate were maintained, the decrease in the outflow of foreign exchange would easily exceed the annual reduction of 160 million dollars, which was the target set up by the authorities.

As regards the composition of imports, the effects of the measures adopted early in 1955 deserve some comment. If data for that year are compared with those for 1954, it will be seen that imports of consumer goods, fuels and raw materials contracted in a proportion ranging from 6 to 15 per cent, while imports of capital goods expanded by almost 10 per cent, until they represented more than half total imports. This fact radically modifies first impressions of the efficacy of the measures for curtailing imports, which actually took effect more rapidly than seemed to be the case, but only upon those items where they could logically do so, that is, upon imports of products for which long-term sales contracts are not required. It seems inevitable that an import structure in which the share of capital goods is almost 50 per cent should be unable to react quickly to abrupt changes in economic activity or to restrictive measures. Another point worth noting is that the reduction in imports of raw materials created no difficulties, at least up to the end of 1955. Moreover, all the raw materials essential for the normal functioning of industrial activities were luded in the preferential and primary categories, thus oying priority and a favourable exchange rate.

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[23] A case in point is that of carnauba wax, which regained its footing in the United States market, whence it had been ousted by candelilla wax from Mexico.

[24] The data given here are not identical with the figures published in "Colombia's economic policy in a year of balance-of-payments disequilibrium", Economic Bulletin for Latin America, Vol. I, No. 1 (January 1956), p. 53, some of which were provisional.

[25] This figure is somewhat surprising, when it is recalled that coffee constitutes about 83 per cent of total exports and that its mean export price was reduced by 20 per cent, or, on an average, from 80 to 64 cents per pound. In point of fact, the 10 per cent reduction relates only to the registered values of exports. The loss suffered by Colombia's economy was at least half as great again, owing to the narrowing of the margin of foreign exchange placed freely at the disposal of exporters.

[26] See the article mentioned in footnote 24.

Colombia's economic policy was also directed towards development and enlargement of foreign markets. t only was the benefit of the free exchange rate granted products of secondary importance,[27] but, in addition, restriction imposed in May on imports from coun- es with which Colombia had a trade deficit led to a ght increase in exports of coffee to Europe, although some sacrifice of price levels which was reflected in a charge on the value of the products imported.

With respect to production for import substitution, phasis should be laid on the domestic iron and steel king industry, which succeeded in meeting about 50 r cent of consumption requirements. Similar stress ist be laid on the great expansion of cotton production, nks to which the Colombian textile industry is now f-sufficient as far as ordinary fibre is concerned. Tariff ties on imports of cotton and its by-products were erefore increased as from last November.

3. ECUADOR

Ecuador was the country in which income from coffee d cacao suffered the greatest proportional reduction in 55. To the fall in prices were added the effects of a or cacao crop. Fortunately, 50 per cent of the 20-illion-dollar decline in receipts from these sources was set by a noteworthy rise in exports of bananas, rice, d Panama straw hats. Despite the difficulties en- untered in the marketing of rice, shipments abroad ubled during 1955, but this did not prevent the stocks cumulated since 1953 from increasing as well, on ac- unt of the unusually good harvest. As for exports of nanas, they continued to follow an upward trend, and uador became the foremost world supplier.[28] If it is mitted that the rise in coffee and cacao prices in 1954 as exceptional, Ecuador's production for export can be nsidered to have maintained the trend towards rapid velopment which had begun in 1950 and which had lowed larger imports of capital goods to be effected and onomic development to be promoted.[29] The curtailment imports in 1955 affected capital goods less than the her categories, so that their quota increased in relation the preceding year from 37.1 to 39.6 per cent of total nports. From 15 million dollars in 1950, imports of pital goods rose to 40 million dollars' worth in 1955; is permitted the rapid development of the textile in- ustry, among other activities.

The means employed to restrict imports were of vary- g kinds. Indirect action was taken, in that application r import permits had to be accompanied by an advance eposit of their value; but direct measures were also dopted, in the form of an extension of the list of pro- ibited imports. Imports were thus reduced by an amount rather larger than that of the decrease in exports, but even so equilibrium was not achieved either in the trade balance, where the deficit remained almost the same as in the preceding year, or in the balance of payments, which was further affected by other factors. Tighter restrictive measures will probably have to be introduced, as, owing to the unfavourable evolution of the trade and financial situation in 1955, three of the limits which monetary legislation defines as critical for Ecuador were overstepped. In fact, the country's foreign exchange reserves were reduced in one year by more than 25 per cent, and dropped to less than 30 per cent of the annual value of imports and below 40 per cent of the money supply.[30]

Ecuador's exchange system authorizes multiple rates within a margin narrow enough not to distort the relation between domestic and world market prices. Exports of marginal products may be stimulated by the granting of total or partial participation in the benefits of the free rate of exchange, but the difference between the official rate of 15 sucres to the dollar and the free rate has not exceeded 15 to 20 per cent in recent years, except on very rare occasions. It has thus been sufficiently flexible to enable production for export to find markets abroad. The only exception has been rice, for which the Government grants direct subsidies and arranges agreements with foreign countries, for instance, Canada, because of the high production costs of this commodity.

Furthermore, new measures have recently been adopted with the aim of promoting exports and production for import replacement. An Instituto del Café and a Comisión Nacional del Trigo have been set up. Studies on banana pests have also been encouraged. Previous efforts have already yielded some results, among them the increase in exports of washed coffee, for which prices have improved. The noteworthy increment in the production of bananas was partly due to the implementation of the official road transport programme.

4. ARGENTINA

In Argentina, the poor maize harvest was the principal cause of the 9 per cent decline in the value of exports. This decrease would have been considerably greater if a recovery in wool sales during the last few months had not taken place. The satisfactory trend shown by the wool market after the exchange reform introduced in October 1955 has been maintained during the early months of 1956, thanks to the large purchases made by Japan and the United States.[31] The boom in exports of chilled meat which had already begun in June as a result of the return to free trading in meat in the United Kingdom was also intensified at the time of the exchange reform. The progress achieved was so remarkable that Argentina ousted Australian meat from second place on the British market. Nevertheless, Argentina's trade balance suffered a severe disequilibrium in 1955, largely owing to the expansion of imports. The contraction effected in previous years had meant that raw materials and spare parts for industrial equipment were in such short supply that a relatively considerable increase in import permits became essential.

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[27] In contrast with the official rate of 2.50 Colombian pesos to e dollar, the free exchange rate stood at more than 4 pesos to e dollar at the close of 1955.

[28] The smaller output in Honduras and Guatemala made a cir- mstantial contribution to the rise in the demand for bananas om Ecuador.

[29] With 1950 as the base year, the volume of Ecuador's exports se from 69 in 1949 to 100 in 1952 and 118 in 1955, slight reces- ons being recorded in 1951 and 1953.

[30] Reserves in gold and foreign currency fell from 34.1 to 23.4 million dollars during the course of 1955. In March 1956, the Junta Monetaria prohibited imports of spirits, tinned goods, passenger cars and 50 other non-essential articles.

[31] For a more thorough analysis of the measures for the encouragement of exports decreed in October 1955 by the Argentine authorities, see the article entitled "The situation in Argentina and the new economic policy", *Economic Bulletin for Latin America*, pp. 26 *et seq.*

The terms of trade were highly unfavourable to Argentina, despite a slight improvement in export prices. Their deterioration was due to a marked increase, amounting to 9 per cent, in the unit value of imports, the explanation of which no doubt partly lay in the rise in sea freight charges, which principally affected transport between Europe and the South Atlantic seaboard.

5. URUGUAY

Uruguay also felt the effects of such increments in ocean transport costs, but with the aggravation of a considerable decline in the unit value of its exports. The factor of most importance, however, was the almost entire disappearance of exportable balances of meat. The value of total exports fell by 27 per cent, even though sales of wool greatly increased towards the close of the year. As in the case of Argentina, these sales have continued during the early part of 1956, especially those to the United Kingdom, the Netherlands and the Soviet Union. The application of a more favourable exchange rate also exerted some influence, but as this was only a temporary concession the year's exportable balance was completely liquidated in a few months.

In contrast to Argentina, Uruguay reduced its imports in 1955, thanks to the direct action of the control mechanism which limited the granting of permits. Nevertheless, the decrease in imports was not so great as the decline in exports, and the trade deficit already apparent in the preceding year was thus aggravated. Again, the imports formerly effected had provided industry with its normal supplies, so that the restrictive measures most strongly affected raw materials, since the share of capital goods increased. A relative increment was also to be seen in imports of consumer goods. This was apparently a consequence of the special features of the exchange system, which is conducive to exaggeratedly large imports of non-essential and even luxury goods, as it is these that can most easily carry the price surcharges necessary to offset the direct or indirect subsidies required by many export products on account of their high costs.

6. CHILE

An increase of 17.7 per cent in current export values gives the measure of the improvement in Chile. The larger volume of exports and better sales prices were responsible for this figure. Again, the more moderate rise in average import prices finally resulted in an improvement of almost 8 per cent in the terms of trade. Even so, the volume of imports had to be strictly controlled, as the reductions effected in previous years, combined with the highly inflationary state of the internal economy, had intensified the demand for all categories of goods from abroad to such a point that it was far from being satisfied by a 7 per cent increase in the volume of such purchases. Particularly striking is the marked percentage decrease in raw materials, which lowered stocks and at times created problems for transforming industries.

Again, difficulties encountered in previous years
left the country saddled with a large backlog of payme
at the beginning of 1955. The positive balance registe
in the preceding financial year substantially eased t
burden of arrears—dating from 1953—and strengthen
the country's foreign exchange reserves. The fact that
favourable developments which took place in 1955 ha
persisted during the early months of 1956 gives groun
for the hope that outstanding external commitments w
be liquidated at an early date.[32] Meanwhile, it has be
deemed necessary to maintain—at least in its essent
aspects—the control of imports by means of lists
authorized products.

Nevertheless, the improvement of Chile's position
1955 and the possibilities arising from a prospect
increase in copper production capacity—thanks to n
and substantial investments already resolved upon by t
foreign companies—do not mean that the drawbacks
the Chilean economy's excessive dependence on the wo
market position for a single product can be disregarde
Receipts from copper accounted for 66 per cent of t
value of all exports in 1955, an even larger proportio
that is, than in recent years. Moreover, exports of oth
products have declined, with the consequent aggravati
of the trend apparent since 1953 both for animal a
vegetable products and for manufactured goods. In th
latter group the downward movement is even sharper
semi-processed copper goods are excluded from the tota
Among mineral products, a fresh recession in nitrates
apparent. On the other hand, a noteworthy increase
sulphur exports was made possible by barter arrang
ments, but involved a heavy surcharge on the price
the commodities imported by this procedure. The fallin
off in many secondary exports noted during the last fe
years does not reflect a decline in the country's productio
capacity; it is largely the consequence of an over-comple
exchange system which lacks the flexibility called fo
by the rise in production costs that monetary inflatio
has brought in its train. It is hoped that the co-ordinate
measures now being adopted to promote a normal e
change situation and financial stability will restore th
indispensable equilibrium between domestic costs and e
ternal prices, and will thus enable production for expo
to be remodelled on sound and rational bases.

7. PERU

In 1955, Peru's imports and exports alike exceede
all previous figures. However, imports, which increase
from 250 to 300 million dollars, showed a much mor
striking expansion than exports, the value of which ros
from 238 to 260 millions. It is true that the growth o
these latter has been steadier, imports having been lowe
in 1954 than in 1953. And it should also be emphasize
that only two years ago, when imports rose to 293 millio
dollars—that is, 7 millions less than in 1955—there wa
a trade deficit of 71 millions which led to a 25 per cen
devaluation of the national currency. On the other hand

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[32] The official foreign exchange budget for 1956 allocates a sum
of 92 million dollars to the payment of arrears. It seems that thi
amount comprises not only trade debts properly so-called, but like
wise transfers corresponding to imports effected in 1955 an
normally payable in 1956.

A slightly larger volume of imports in 1955 resulted in only a small reduction of less than 3 million dollars in the country's international reserves.[33] This favourable evolution was largely due to a 22 per cent increase in exports, and shows how much stronger Peru's economy has grown and how far the country has enlarged its capacity to import. This of course does not mean that a trade deficit of almost 30 million dollars gives no grounds for anxiety.[34] The operation of the high propensity to import within a free trade and exchange régime calls for strict vigilance in the manipulation of those indirect devices by whose action the equilibrium of the balance of payments can be protected.

In the case of Peru, the 20 per cent increase in imports registered for 1955 relates directly to the expansion of the internal private sector, and is jointly attributable to the growth of the gross product, a very marked expansion of credit[35] and a distribution of income which, by favouring the higher income levels, led to a disproportionate rise in the demand for imported products. Both the increment in imports and the somewhat inflationary character of internal expansion may also have been influenced by the remarkable development of the transforming industries. In this connexion, symptoms of a significant change in Peru's economic evolution can be observed. Although there is no waning of interest in the development of the basic sectors of the economy—energy, communications, rehabilitation of land—or in the expansion of production for export, both domestic and foreign manufacturing enterprises have increased in number and dimensions. Several factories are being installed with a view to replacing imports of essential products, and others of some years' standing, after meeting national requirements, are now competing on world markets.[36]

Naturally, such exports of manufactured goods are effected only on a small scale as yet, and expansion continues to depend on the development of mining and the staple industrial crops. A 47 per cent increase in the volume of its exports within five years places Peru almost on a level with Venezuela, with one of the highest indices in Latin America.

These features of Peru's economic development explain why a trade balance deficit equivalent to 10 per cent of the value of imports caused no serious balance-of-payments disequilibria.

In the course of 1955, Peru obtained three development loans from the International Bank for Reconstruction and Development, totalling 25 million dollars. Furthermore, a French bank granted a 27-million-dollar credit to the Corporación del Santa. A private United States bank accorded another credit for the sum of 9 million dollars to the Government of Peru for agricultural development in the Ica valley. Only a small proportion of these loans was used in 1955 to pay for imports of capital goods. The balance, which is in the nature of 50 million dollars, will swell the capacity to import over the two coming years. Besides these development credits, an increment estimated at 9 million dollars in short-term private commercial credits also helped to finance the excess of imports over exports, as did the purchase of wheat and butter from the United States accumulated surpluses, to a value of 7 million dollars, payable over the long term and in Peruvian national currency.

8. Mexico

Despite a slight deterioration in the terms of trade as compared with the preceding year, the evolution of Mexico's foreign trade was very favourable in 1955. After decreasing over a period of three years, imports once again expanded, reaching a value of 884 million dollars, or 12.3 per cent more than in 1954. Exports, however, followed an even more dynamic course, rising from 657 to 790 million dollars, that is, by 21.1 per cent. This accounts for the reduction of about 50 million dollars in the trade balance deficit, which is traditionally offset by income from the tourist trade, also higher in 1955. Mexico's success in reversing the long-term trend towards a greater increase in imports than in exports was largely due to measures of economic policy and the continued demand for Mexican products abroad. Another distinguishing feature of Mexico's foreign trade during the year under review was the still heavier curtailment of purchases of consumer goods, while the share of total imports represented by capital goods and raw materials continued to expand. Here again State policy enacted an important role.

The exceptional increment in the volume of exports was mainly due to cotton, and, in a lesser degree, to coffee, copper, petroleum and zinc. Cotton sales rose from 260,000 to 350,000 tons, their value representing about 30 per cent of total exports. This increase in volume—as in the case of coffee, where it amounted to 84,000 tons, or 21 per cent—was principally attributable to an expansion of production, partly brought about by the official development measures. Nevertheless, it should be noted that if exports increased, they did so in spite of the none too favourable position of these two products on the world market. There can be no doubt that a significant part was played by the 1954 devaluation, which enabled Mexican prices to compete with falling world quotations. Liquid fuels ousted lead from third place among Mexico's exports. It is therefore not surprising that metals accounted for a smaller proportion of exports, although the volume of zinc sold abroad rose by 10 per cent. A reduction was also to be noted in the case of sisal, but this was partly because Mexico adopted the policy of processing it and selling it in the shape of manufactured products, instead of exporting the fibre.

The increase in the current value of imports was due on the one hand to the 7.3 per cent enlargement of their volume, and on the other to the rise of 4.6 per cent in the price indices. The composition of imports evolved along lines of considerable interest from the economic standpoint. While the volume of imports of consumer goods decreased from 26 per cent of aggregate imports in 1954 to 19 per cent in 1955, the share of capital goods and raw materials rose from 45 to 49 and from 21 to 24 per cent, respectively.

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[33] This reduction in the reserves is not without importance, however, in view of their low level (they barely amount to the equivalent of one month's imports). Consequently, despite the stability of the currency, the stand-by credit of 30 million dollars contracted in 1954 has had to be extended for another year.

[34] After the value of exports of bullion has been added to that of exported goods.

[35] Loans from private commercial banks increased by 20 per cent in 1955 and deposits by 15 per cent—that is, in unprecedented proportions.

[36] Among the items which are being produced to relace imports, mention should be made of matches, explosives for mining, tyres and inner tubes, paint, refractory products for industrial purposes, fertilizers and cement. Exports of footwear in 1955 to Ecuador, Bolivia and Central America were valued at one million Peruvian soles. It is a striking fact that this industry, which grew up under the shelter of strong tariff protection, is now proving itself capable of competing in price and quality on the open market. This seems to be a result of the keen competition among the various national enterprises.

These modifications were closely linked to a policy of import replacement and selective control. Purchases of foodstuffs had steadily increased since 1953, as domestic production, despite its growth, did not suffice to meet the country's heavier requirements. This induced the Mexican authorities to adopt active agricultural development measures. As a result of this policy and weather conditions, in 1954 and to a still greater extent in 1955, the pro duction of foodstuffs expanded considerably; self-suff ciency was virtually achieved in certain products whic were formerly imported in large quantities, notabl wheat, maize and beans. Moreover, the development o production allowed imports of lubricants to be cut down and, while this did not imply that the share of fuels i the total value of imports was reduced, it offset th heavier purchases of crude for the northern zone of th country, to which transport of the domestic product i difficult. Finally, within the policy of selective contro of imports, the restrictions and higher customs tariff applied to imports of consumer goods—especially passenger cars—as well as the granting of tariff concession to capital goods were invariably dictated by the need t encourage economic development.

Chapter III

AGRICULTURE

I. GENERAL ASPECTS AND PROBLEMS

1. Production trends

Agricultural activities in Latin American followed two
ergent trends in 1954/55. Conditions favourable to
sector producing for the domestic market—which
counts for most of the agricultural output—were ac-
mpanied by others that hampered the normal devel-
ment of production for export. As internal demand for
dstuffs and raw materials expanded with the growth
the population, as income rose and urbanization pro-
eded apace, a situation propitious to agriculture was
eated and Governments infused new energy into de-
opment policies aimed at self-sufficiency. On the other
nd, such factors as the downward movement of world
ices and the accumulation of staple export surpluses—
th inside and outside the region—militated against
successful marketing of such crops. Nevertheless,
nks to the measures adopted by a number of Govern-
nts—such as minimum prices and more advantageous
change rates—the Latin American farmer did not bear
whole brunt of the decline in the world market for agricultural commodities. Moreover, the fall in prices took place after crops were sown, so that, apart from sugar, production was not affected.

After a period of hesitant growth following the Second World War, Latin America's agricultural production recovered somewhat in 1954/55, the rate of growth slightly exceeding the average for the previous ten years. As a result of good weather in the main agricultural areas, the volume of production reached a new peak, rather more than 5 per cent above the 1953/54 level and 18 per cent higher than that of 1949/50. (See table 25.)

Fortuitous influences rather than reconstruction policies caused the composition of agricultural production to undergo fairly significant modifications, which affected the region's domestic supplies more than production for export.

Production of bakery cereals—wheat and rye—expanded by 19 per cent, owing in the first place to excellent weather conditions for winter crops in the south of the region (Argentina, southern Brazil, Chile and Uruguay) and in Mexico, as well as, in the second place, to the application of wheat development measures in

Table 25. Latin America: Index of the volume of agricultural production

(1949/50 = 100)

	1950/51	*1951/52*	*1952/53*	*1953/54*	*1954/55*
al agricultural production	103.0	103.0	110.0	112.0	118.0
r capita agricultural production	101.0	98.0	102.0	102.0	104.0
oduction for the domestic market	103.0	101.0	108.0	111.0	116.0
Per capita	101.0	97.0	100.0	101.0	103.0
oduction for export	104.0	105.0	112.8	114.9	118.6
Per capita	101.0	100.0	104.8	104.0	105.0
oduction of foodstuffs	105.0	101.0	111.0	112.9	117.6
Per capita	102.7	96.6	103.0	102.0	104.0
Bakery cereals (wheat, rye)	110.7	63.1	147.5	130.0	154.6
Rice	102.9	100.4	108.0	113.5	125.8
Non-bakery cereals	125.8	104.5	131.1	140.0	130.9
Roots and tubers	104.7	101.2	111.3	119.8	116.3
Pulses	100.4	94.0	108.1	120.7	115.8
Edible oil-seeds	115.9	114.7	99.6	105.7	106.0
Sugar and panela	107.3	123.2	108.2	110.6	106.9
Cacao	84.6	86.4	92.1	107.4	106.6
Fruit	101.1	106.9	109.9	114.5	122.8
Vegetables	100.1	105.2	117.8	123.5	133.5
Meat	99.1	98.0	96.2	96.2	100.1
Wine	93.0	112.3	103.1	90.1	130.3
oduction of stimulants	99.2	107.4	108.0	107.7	113.4
Per capita	96.9	102.5	100.4	97.7	100.5
oduction of raw materials	96.7	107.4	102.1	115.5	119.3
Per capita	94.4	102.5	94.9	104.8	105.8
Cotton	96.2	116.6	103.8	127.5	133.9
Wool	100.4	101.6	102.8	103.1	97.7

Source: Official statistics.

most importing countries. Mexico became practically self-sufficient, and, despite consumption increments, the remaining producer countries were able to avoid increasing and, in some instances, even to reduce their imports.

Non-bakery cereals—oats and maize—registered a 6.5 per cent decline in relation to 1953/54, undoubtedly because of the sharp drop in Argentina's output of maize. Summer droughts, together with the deterioration of relative prices which for some time has been adversely affecting this crop, were partly responsible for one of the lowest volumes recorded in the last quarter of a century and for reducing exportable surpluses to a minimum. On the other hand, Cuba, which two years before had achieved self-sufficiency through the establishment of guarantee prices, had to restrict maize production by limiting the area under this crop, in view of the surpluses accumulated in 1953/54.

Fruit-growing, which had been steadily improving, achieved a significant position in 1955, when it contributed more than 10 per cent of the volume of Latin America's agricultural production. The output of tropical fruit (bananas and pineapples), traditionally produced for export, expanded by 8 per cent in relation to 1953/54 and by 23 per cent in comparison with 1949/50. Temperate-zone fruit, production of which progressed still more rapidly, not only completely satisfied increasing domestic demand, but became an important item in foreign trade.

Argentina harvested a record table-fruit crop and was able to export 77,100 tons in the first eight months of 1954/55, as against only 53,600 during the same period in the previous year. Its output of grapes, both for table consumption and for wine, registered a similar expansion: vineyards increased from a total of 170,000 hectares in 1949/50 to 207,000 in 1954/55, while production in the latter year, under excellent weather conditions, rose to 2.3 million tons.[1]

Great progress in fruit production, mainly for export, was also achieved in Mexico, Chile and Uruguay. Both in the last two countries and in Argentina, however, exports were partially restricted by rising production costs and unfavourable exchange rates. The exchange reforms introduced at the end of 1955 will enable Argentina to compete on advantageous terms in the large market for fruit from the southern hemisphere represented by Europe and the United States.

The production of vegetables has also acquired great significance, although it is impossible to assess the extent of its development owing to lack of adequate statistics. Nevertheless, in view of the accelerated process of urbanization observable in most countries and the substantial demand for vegetables that accompanies higher income levels, it may safely be assumed that the rate of increase for such crops has been rapid.

Since coffee is of such great importance for the Latin American economy, particular emphasis should be placed on the fact that production of this commodity rose by almost 7 per cent in 1954/55. The fact that the harvest—totalling 2.22 million tons—was the largest recorded since the coffee crisis of the early 'thirties, mainly arose from Brazil's exceptional output. Moreover, marked crements registered in Cuba, Mexico and Venezue offset the serious declines caused by adverse weath conditions in Colombia, Ecuador and most of the Cent American countries. In effect, the 1954/55 crop is t first to reflect almost completely the expansion repr sented by the new plantations incorporated in 1949 und the incentive of the steady rice in coffee prices.

In the region as a whole, significant decreases in pr duction affected only a few agricultural sectors. Pr duction of roots and tubers and of pulses declined by and 4 per cent respectively, in comparison with the pr ceding harvests, but in both cases it was unfavourab weather that prevented the normal development of t crops. Conversely, the 3.5 per cent reduction in the sug crop is particularly interesting both because it w brought about deliberately, and because the region production for export and for domestic consumptio followed divergent trends. To prevent a further drop world market prices and the accumulation of larg surpluses,[2] Cuba and the Dominican Republic had restrict their production by 7.4 and 3.3 per cent respe tively. In contrast, other relatively important exporte expanded their output—Brazil by 6.5 and Mexico by 9 per cent, for instance. The increase in the Brazilian cro was due to the maintenance of guarantee prices at high profitable levels. Venezuela stands out among the habitu importers with a 48 per cent increment in its sugar cro which reached 144,000 tons and entirely covered domest requirements.

The remaning sectors of Latin American productio showed as a whole but little change, and, in most case small increments took place, in line with demograph growth.

A glance at salient developments in the various Lati American countries will complete the picture. Most in teresting of all, from the national viewpoint, is un doubtedly the rapid progress achieved by agricultu in Mexico. An intensive government development pro gramme, heavy investment in irrigation works and th rise in income—which created a very favourable do mestic market for consumer goods—induced a rate o agricultural growth much more accelerated than in an other Latin American country, and comparable alone t that of some highly industrialized nations.[3] In 1955, pro duction attained a level 9 per cent above that of 1954, i which year the 1953 figure had in turn been exceede by 18.9 per cent. The new increment meant not onl that total and per capita production were respectivel 36.5 per cent and 18.1 per cent higher than in 1950, bu also that Mexico obtained record harvests of cotto wheat, maize, barley, potatoes, sesame, cacao, sugar an tobacco, while cattle extraction substantially increase A considerable improvement in domestic supplies wa likewise involved, as well as larger exportable surpluse of certain products, especially cotton and sugar.

For Argentina's agriculture the year 1954/55 was on of recovery rather than of progress, in which it was abl recuperate from the sharp decline caused by adverse ather conditons during the preceding year. Even so, icultural production surpassed the 1953/54 level by per cent and that of 1949/50 by almost 19 per cent. ctors contributing to this increment were the bumper eat harvest (7.69 million tons), the considerable in- ase in wine production (65 per cent), which raised o 1,757.6 million litres, or 21 per cent of the aggregate ume, and the recovery in cattle-breeding, the number animals slaughtered having been only slightly less n in the peak year 1949/50. So high a level of meat oduction (9.5 million head slaughtered) enabled gentina to regain its position among the main world porters.

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[1] In 1952/53, the production of grapes stood at 1.85 million tons, while in 1953/54 only 1.5 millions were produced.

[2] See section II of this chapter, on sugar.

[3] Agriculture has developed more rapidly than any other eco nomic sector in Mexico. Its gross product was 41 per cent highe than in 1950, whereas over the same period mining expanded b only 15 per cent, industry and building by 21 per cent and othe activities by 23 per cent. The aggregate gross product increased b 26 per cent.

Despite such encouraging results, possibilities of ex- nsion were limited by prolonged summer droughts ich not only seriously damaged the maize harvest, but o affected potatoes, pulses and edible oilseeds. With pect to these last it should be mentioned that the un- ourable relative prices which have been affecting them many years[4] were even more responsible than in case of maize for a still greater reduction of the area der cultivation. The outcome was a crisis in the pro- ction of edible oils, and 100,000 tons had to be im- rted. The case of Argentine oil-seeds is one of the few the whole history of Latin American agriculture erein an important exporter has become an importer ing to internal price pressures.

Among the other developments of some significance national or regional agricultural production, or ectly influencing it, the following points merit some nsideration:

(*a*) Venezuela became self-sufficient as regards rice. th an output of 73,000 tons, as against 48,900 in the eceding year, the country fully met its own require- nts. The Government's development policy, and the bstantial investment in the irrigation of land to be ed mainly for this crop, ensure the future maintenance this high level of production.

(*b*) Cotton cultivation in Central America continued expand. El Salvador, Honduras and Guatemala regis- ed increments in production ranging from 30 to 45 r cent with respect to 1954. The high yields obtained the application of modern techniques, without re- urse to irrigation, have resulted in low unit costs which aply compensate the price decline on the world market. e boom in cotton production has constituted a dynamic ctor in Central America's agricultural development, and s involved the introduction of new and advanced tech- ques. During 1955 the area under cultivation in two untries—El Salvador and Guatemala—was extended 22,000 hectares, thus reaching a total of 67,000 ctares. Nicaragua continued to grow cotton over 87,000 ctares. Nevertheless, by competing on advantageous ms, cotton has partially ousted other less profitable crops, and has patently affected production of some basic foodstuffs, even to the extent of endangering the population's normal supplies.

(*c*) Uruguay virtually disappeared from the beef-exporting market. In the keen competition for land, cattle-rearing gradually lost ground to sheep-breeding and wheat-growing. Under the stimulus of the lucrative guarantee prices established by the Government, wheat encroached on about 250,000 hectares of land previously used for winter pasture and fattening; while the expansion of sheep-breeding exceeded the normal carrying capacity of the grazing-land used for this purpose, partly owing to the recent boom on the world wool market. Furthermore, the low prices paid to producers created marketing difficulties which were aggravated by the multiple regulations that restrict meat distribution in Montevideo. Consequently, beef production not only declined, but was diverted from its normal channels, and controlled meat exports were reduced to a minimum.

(*d*) The rate of agricultural mechanization slowed down in some countries to a degree which was particularly remarkable in Argentina, Brazil, Costa Rica, Honduras and Uruguay. In the first two and in the last of these the decline was due almost entirely to balance-of-payments difficulties and not to a weakening of demand. On the contrary, there is a substantial unsatisfied demand which in many cases has raised the prices of machinery and spare parts.

2. World market prices and surpluses

The over-all decrease in prices for agricultural commodities on the world market during 1955 constituted one of the depressive factors of most importance for the Latin American economy and undoubtedly the one whose repercussions most affected agriculture.

Since the accumulation of surpluses of basic agricultural commodities in the main producer countries of the world increased, while world demand remained relatively stationary—owing either to the trend towards self-sufficiency in importing countries or to consumers' unwillingness to pay the high prices quoted for some commodities—by the end of 1954 and the beginning of 1955 prices began to drop. The amount of the decrease ranged from 3.9 per cent for cotton on the London market to 35.2 per cent for cacao in New York. Prices for sugar and wheat—which had begun to fall in 1953—continued to decline during 1955, although at a slower rate. (See table 26).

Hence in 1955 the Latin American economy suffered a loss of about 550 million dollars on its exports which would have been avoided if the 1954 price level had been maintained. The dollar income obtained from exports of the six staple products—cotton, sugar, cacao, coffee, wool and wheat—amounted only to 3.016 billion dollars, that is, 21.2 per cent less than in the preceding year. This drop in foreign exchange earnings becomes more significant when it is recalled that the volume of exports of these six products increased by 8.4 per cent, and that one of the sharpest decreases affected coffee, which is, of course, Latin America's main export commodity and accounts for more than half the total value of agricultural exports.

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[4] In consequence of the unfavourable relative prices and the ling-off in yields, the relation of the gross income per hectare eived by producers of maize, linseed, sunflower-seed and pea- s to that of growers of barley, rye, and, in a lesser degree, eat and oats, deteriorated in 1954/55 by up to 50 per cent in nparison with income parities during the five years preceding war. (See "The situation in Argentina and the new economic icy", *Economic Bulletin for Latin America*, *op. cit.*, page 40, le 10.)

Table 26. Latin America: Average prices and price fluctuations for basic commodities, 1954-55

Commodities	*Market*	*1954*		*1955*	
		Average	*Fluctuation 1953/55 (Percentages)*	*Average*	*Fluctuation 1954/55 (Percentages)*
"Santos" coffee	New York[a]	78.3	25.3	57.0	—27.3
Coffee	Brazil[b]	2,190.67	77.6	2,047.99	— 7.0
"Manizales" coffee.	New York[a]	80.0	25.3	64.7	—19.2
"Pergamino" coffee	Medellín[c]	38.4	38.6	32.1	—19.6
Cacao	New York[a]	57.7	35.8	37.4	—35.2
Cacao	Brazil[d]	407.0	138.0	335.0	—21.5
Sugar	New York[e]	3.26	— 4.4	3.24	— 0.6
Sugar	New York[f]	5.2	— 3.7	5.0	— 4.0
Sugar	Brazil[g]	3,490.0	—	4,646.0	33.1
Wheat	Canada[h]	1.81	—13.4	1.77	— 2.3
Wheat	Argentina[i]	50.0	—	50.0	—
Cotton	London[a]	38.5	6.0	37.0	— 3.9
Cotton	Peru[j]	617.37	24.2	581.44	— 6.2
Cotton	Brazil[k]	362.01	41.6	457.10	26.3
Wool	Boston[l]	119.4	10.2	110.0	— 7.9
Wool	Argentina[m]	71.0	— 2.8	131.0	84.5

Source: Official statistics.

[a] Dollar cents per pound.

[b] Average price paid to farmers for 60-kilogramme bag; in cruzeiros.

[c] Wholesale price for ordinary "Pergamino" coffee; pesos per 12.5 kilogrammes.

[d] High-grade "Bahia" cacao; cruzeiros per 15 kilogrammes.

[e] Free market; dollar cents per pound.

[f] United States market; dollar cents per pound.

[g] Price fixed for producers; cruzeiros per ton.

[h] Dollars per bushel.

[i] Pesos per 100 kilogrammes.

[j] Net prices in national currency after deduction of export tax from real prices; "Tanguis" cotton; soles per 46-kilogramme bag.

[k] Cotton fibre, grade 5, São Paulo; cruzeiros per 15 kilogrammes.

[l] Dollar cents per pound, clean basis.

[m] Pesos per 10 kilogrammes. Prices refer to average quotations in November.

Thanks to the policy of encouraging production which the Governments have now been pursuing for some time, or to the measures specifically adopted to counteract this price disequilibrium, the farmers did not bear the entire burden of the decline. Although official prices were pegged slightly lower than in the previous year, they were still profitable enough to maintain and even stimulate production. In addition to minimum prices—a widespread method of protecting many commodities—the Governments established export exchange rates closer to world parity, granted special bonuses and made purchases with public funds. In the case of coffee, international negotiations were also set afoot with a view to regulating the supply though no concrete results were achieved.

The International Wheat Agreement and the International Sugar Council played an important role in preventing prices for these products from falling still lower. Moreover, the policy of ensuring a specific price level for agricultural commodities adopted by the United States Government has had similar effects on international wheat and cotton quotations.

While certain domestic prices for export products fluctuated in accordance with price modifications on the world market—those of sugar, for instance, in Cuba, the Dominican Republic and Peru; of cotton in Peru; and of cotton and coffee in Central America—others, whether for the same or for different export commodities, diverged from the course followed by world quotations, largely as a result of official controls. Thus, while in 1955 the average price quoted for "Santos" coffee on the New York market was 27.3 per cent lower than in 1954, the price received by planters in the state of São Paulo fell by only 7 per cent.

In isolated cases, such as that of cotton in Brazil or that of wool in Argentina, local prices rose considerably. The Government guarantee price for sugar meant that the Brazilian producer was paid 4,646 cruzeiros per ton, or 33 per cent more than in the preceding year. Cotton prices also improved by 26.3 per cent, as a consequence of the higher cruzeiro subsidy on exports resulting from the transfer of the exchange rate for this commodity from the second to the third category.

In the case of Argentina's wool, the modification of the exchange rate for exports effected in October 1955—from 6.25 to 18 Argentine pesos to the dollar (13.50 net)—led to an immediate rise in domestic market quotations which fluctuated between 51 per cent for fine crossbreeds and 160 per cent for medium crossbreeds. Conversely, the average world price was almost 8 per cent lower in 1955 than in 1954.

In addition, except for sugar, cacao and wheat, the price decline took place after most annual crops had already been sown, so that its direct or indirect depressive influence did not affect the 1954/55 harvests.

The accumulation of surplus stocks on the world market does not seem to have seriously handicapped Latin Amer-

’s agricultural production in 1954/55. Only sugar pro- tion in Cuba and the Dominican Republic was directly ected, since the quotas established by the International gar Council obliged both countries to enforce further trictions on sugar processing. As a result of this crease in production and of the heavier exports effected the four main producers (Cuba, the Dominican Re- blic, Brazil and Peru),[5] surplus stocks were reduced 2.3 million tons and their pressure on the market was considerably eased. Stocks held in Mexico, on the other hand, rose to a level (310,000 tons) which is beginning to cause concern, since in present world market conditions the country cannot be sure of selling more than the 80,000-ton quota assigned to it by the Council. (See table 27.) Finally, the situation of the sugar sector in Cuba improved considerably thanks to the production of rich treacles and syrups, which in 1955 totalled 874 million litres and were all exported.

Table 27. Latin America: Stocks of selected basic agricultural commodities at the close of the trade years concerned

(Thousands of tons)

untry	*Sugar (31 December)*		*Wheat (31 December)*		*Coffee (1 July)*		*Cotton (1 August)*	
	1954	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*
gentina	...	...	1,100.0	1,924.0	—	—	100.8	69.4
azil	219.8[a]	218.4[a]	—	—	198.0	390.0	251.5	202.7
lombia	—	—	—	—	162.0	216.0	11.5	10.4
ba	1,945.4	1,623.0	—	—	—	—	—	—
minican Republic	75.1	54.0	—	—	—	—	...	...
exico	203.8	310.0	—	—	—	—	24.9	46.6
caragua	—	—	—	—	—	—	...	5.2[b]
ru	76.6	51.2	—	—	—	—	48.8	57.4
uguay	—	—	206.0	122.0	—	—	—	—
her countries	...	...	—	—	—	—	27.3	45.2
TOTAL LATIN AMERICA	2,520.7	2,256.6	1,306.0	2,046.0	360.0	606.0	464.8	436.9
WORLD TOTAL	6,870	6,520	45,016.0	46,052.0[c]	648.0[d]	750.0[d]	4,302.0	4,676.5

Source: Sugar: International Sugar Council, and official statis- s for Brazil; *Wheat:* Official statistics for Argentina and Uru- ay; *Corn Trade News,* for other countries; *Coffee:* Secretaría Agricultura, São Paulo; *Cotton:* International Cotton Advisory mmittee, and ECLA estimate for Nicaragua.

[a] 31 May.

[b] 31 December.

[c] 1 August (includes only Argentina, Australia, Canada and the United States).

[d] Including United States stocks.

Additional sowings and the volume of the other crops oduced mainly for export were not affected by the reat of marketing difficulties; on the contrary, pro- iction expanded substantially.[6] As was previously noted, large proportion of the exportable surpluses of the 954/55 crop year was successfully sold on the world arket, although at the cost of some price cuts and more equent recourse to bilateral trade agreements, partial evaluation or special subsidies than in previous years. cases where the situation seemed to be growing more rious, unforseen events gave temporary relief. Argen- na, which at the close of 1955 held a surplus of 1.9 illion tons of wheat, harvested a small crop in 1955/56 4.8 million tons) and will therefore have no great ouble in disposing of both the carry-over and the current xportable balance. Stress should be laid, however, on the creasingly keen competition which Latin America is cing from the United States’ surplus liquidation pro- ramme in marketing its exportable availabilities of heat. Although the programme operates outside regular ade channels, the large volume of sales and the excep- onal payments facilities afforded have already per- eptibly affected the demand for Argentine and Uru- uayan wheat. More serious repercussions are expected in the near future, not only on the demand of countries benefiting from such transactions, but also on the transport systems which serve normal commodity trade among the Latin American countries.

In Brazil, where the largest coffee harvest of the post-war period had been forecast for 1955/56, a major proportion of the crop—about 5 million bags—was destroyed by the frosts which ravaged coffee plantations in the state of Paraná in August 1955. This calamity, together with the smaller yields in some Central American countries in 1954/55 and the depletion of stocks on the United States market consequent upon uneasiness caused by the announcement of a possible devaluation of the cruzeiro, strengthened prices and averted, at least temporarily, the threat of a more serious deterioration of the market.

At the opening of the present coffee year,[7] however, the surpluses situation was not clear. In July 1955, Brazil and Colombia held 390,000 and 216,000 tons respectively, or more than double the stocks on their hands at the same date in 1954. According to recent estimates, these stocks must be added to a world exportable production of 2.3 million tons.[8] Since consumer requirements will probably fluctuate between 2.04 and 2.16 million tons (34 and 36 million bags), it is clearly possible that by the end of the year surplus stocks will have grown considerably.

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[5] Cuba sold 568,000 tons to the U.S.S.R. outside the Agreement. razil exported a total of 443,000 tons, so that the exportable alance at the end of the year was reduced to slightly over 160,000 ns.

[6] If sugar and maize are excluded from the region’s production r export, the index shows a rise of 8.5 per cent, instead of 3.2 or all commodities.

[7] 1 July 1955—30 June 1956.

[8] According to these estimates, Brazil’s exportable surplus carried over to 1955/56 from the previous year will amount to 1.15 million tons, that is, 138,000 more than had been forecast.

The cotton situation, which during 1954/55 involved no serious problems in Latin America, seems to have deteriorated sharply at the beginning of the new cotton year (1 August), owing to imminent and progressive competition from the United States. In fact, this country has sold 138,600 tons to 19 countries, for delivery in 1956. Under the surplus liquidation programme, such purchases are payable in local currency and on long-term credit. Competition on such a scale, and the possibility of expanded world production in 1955/56, totally annul the headway made by Latin America in 1954/55, when the region's surplus stocks were reduced from 464,800 to 436,900 tons. Despite this somewhat gloomy outlook, Latin America's production of cotton has shown no signs of declining in 1955/56 and only Mexico has announced a sowing control programme designed to limit the area under this crop.

II. THE MAIN COMMODITIES

1. Wheat

In 1954/55, the intensive wheat development campaign which a number of Latin American countries have been waging for several years seems to have scored its best successes to date. Most of the countries with adequate ecological conditions for economic wheat-growing made larger sowings and obtained good crops.

Production for Latin America as a whole reached one of its peak levels to date, namely, 11.9 million tons,[9] which was 10 per cent higher than the figure for the previous year, and was partly attributable to an increment of 858,000 hectares in the area under cultivation,[10] as well as to better yields in almost all countries.

This harvest enabled Latin America to make a significantly larger contribution to world production, since it accounted for 7.6 per cent of the aggregate tonnage, as against 6.3 per cent in 1954 and in the pre-war period. Its position as an exporter also improved, since its sales outside the region increased by 24 per cent in relation to 1954, reaching 2.2 million tons. Moreover, the two countries mainly responsible for this development—Argentina and Uruguay—also expanded their exports to certain Latin American importer countries by 27 per cent. These purchases, and local production increments, enabled the latter countries to reduce their imports from other regions to some extent. Latin America's net wheat exports, therefore, rose from 122,000 tons in 1954 to slightly over one million tons in 1955. (See table 28.)

Although the aggregate wheat imports of countries that are habitual importers registered only a minor contraction, the expansion of domestic production permitted a substantial improvement in the supply situation. Thus, in 1955 apparent consumption[11] rose to 6.45 million tons, or 4 per cent higher than in the preceding ye when it amounted to 6.2 millions. According to the figures, per capita apparent consumption seems to ha increased by 2.5 per cent.

Table 28. Latin America: World wheat trade a net export balance, 1954-55

(Thousands of tons)

	1954	19
Total exports	3,298	3,
Exports to areas outside Latin America	1,746	2,
Exports to the rest of Latin America	1,552	1,
Imports from areas outside Latin America	1,624	1,
Total imports of those countries which are habitual importers	3,176	2,
Net exports from Latin America	122	1,

Source: Official statistics.

[a] Preliminary statistics.

The twelve producer countries which have to resort imports in order to cover total consumption[12]—Arge tina and Uruguay are the only countries with exportal surpluses—harvested 3.3 million tons in 1954/55, th exceeding the previous year's level by 9.5 per cent an that of 1949/50 (which was 2.3 million tons) by per cent. Chile accounted for a major part of this i crement, since its production reached an unprecedent peak (1,078,000 tons), with a 16 per cent increase ov the previous year. (See table 29.)

Several factors contributed to the excellent results o tained in Chile. Thanks to Government promises to f a highly remunerative price level and the favourab situation created in 1954 by the 50 per cent subsidy o the price of fertilizers used for wheat-growing, 805,00 hectares (an area 6 per cent larger than in 1953/54 were tilled and sowed. The progressive improvement techniques—particularly in connexion with the use suitable strains and selected seed, the widespread em ployment of fertilizers and the steadily increasing mech nization of farming operations—as well as good weath conditions helped to determine a yield of 1,339 kil grammes per hectare, one of the highest ever obtaine in the country.[13]

Brazil continued to pursue its wheat developme policy, and although deliveries of agricultural machine were somewhat reduced on account of a decrease in im ports, distribution of selected seeds and fertilizers in creased,[14] while the guarantee price of 7 cruzeiros pe kilogramme was very favourable, representing a 40 pe cent increment in relation to the preceding year.[15]

According to official statistics, the area under cultiva tion underwent practically no change, but the yields o

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[9] Only the 1938/39 harvest was larger. Owing to Argentina's exceptional contribution of 10.3 million tons, Latin America's production slightly exceeded 12 million tons.

[10] In 1955, the area under wheat in the whole of Latin America totalled 9.6 million hectares.

[11] For all Latin American countries except Argentina and Uruguay.

[12] Costa Rica, Cuba, the Dominican Republic, Haiti, Hondura and Nicaragua do not grow wheat and import all supplies require for consumption.

[13] Yields per hectare had averaged 1,050 kilogrammes in 1935- and rose to 1,250 in 1950-54.

[14] In the State of Rio Grande do Sul alone 10,400 tons we distributed as against 7,400 in 1953/54 and 2,100 in 1949/50.

[15] At the time when this price was established—November 195 —Brazil was buying its wheat in the world market at 2.22 cru zeiros per kilogramme (at the official exchange rate of 25.8 cruzeiros to the dollar). However, conversion at the free exchang rate then in force would have raised the price to 5.76 cruzeiros.

Table 29. Latin America: Wheat production

(Thousands of tons)

	1933/34-1937/38	1949/50	1952/53	1953/54	1954/1955[a]
Importing countries:					
Brazil	144.2	532.4	771.7	871.3	982.9
Chile	849.9	854.3	989.2	928.4	1,077.6
Colombia	98.4	101.9	170.0	175.0	160.0
Ecuador	19.0	30.8	28.4	32.3	36.0
Paraguay	1.0	0.8	1.6	1.0	1.0
Peru	76.3	143.8	168.7	162.5	170.0
Venezuela	6.5	4.6	6.3	3.1	2.0
Mexico	373.8	587.3	670.6	839.5	881.3
Central America[b]	11.3	22.8	20.8	19.5	17.9
TOTAL	1,580.4	2,278.7	2,827.3	3,032.6	3,328.7
Exporting countries					
Argentina	6,127.7	5,144.0	7,633.7	6,200.0	7,690.0
Uruguay	360.7	452.0	462.5	818.6	853.6
TOTAL	6,488.4	5,596.0	8,096.2	7,018.6	8,543.6
GRAND TOTAL	8,068.8	7,874.7	10,923.5	10,051.2	11,872.3

Source: Official statistics of production.

[a] Preliminary statistics.

[b] Including El Salvador and Guatemala.

ined—906 kilogrammes per hectare, that is, 100 kilorammes more than from the last harvest—enabled prouction figures to rise for the fourth consecutive time, volume of 983,000 tons being attained. This new prouction peak is a result of Brazil's efforts to improve ipplies of this cereal and to reduce imports. The 1954/5 crop was almost 13 per cent larger than that of 953/54, and 85 per cent above the 1949/50 level while ie pre-war volume was exceeded by 581 per cent.

Until very recently, however, even this accelerated rowth of production had enabled a proportionate deline in imports to take place. In fact, purchases abroad ontinued to increase until 1953, and only during the ast two years have imports been fairly constant at a evel of about 1.65 million tons. This situation was due o the steady advance of per capita apparent consumpon from an average of 30 kilogrammes during the re-war period to almost 40 kilogrammes in 1951/55.

Wheat production also achieved significant progress n Mexico. Like the other countries, Mexico harvested a ecord crop of 881,000 tons, as against 839,000 in 1953/4 and an average of 573,000 in the five-year period 949/53. Good crops during the last two years have nade Mexico virtually self-sufficient. Imports, in fact, vhich in 1950 totalled 425,000 tons, declined to 9,000 n 1955.

The development of wheat production in Mexico has een furthered by the expansion of irrigated areas in the orth, by the abundant water supply stored in irrigation ystems during the last two years and by minimum price nd official credit programmes. The most important facor, however, was the enlargement of yields through the se of improved seeds and fertilizers. Most of the wheat own in 1955 belonged to the strains recommended by he Ministry of Agriculture, which distributed 23,000 tons of seed to farmers, that is, enough for 30 per cent of the total area. Consequently, yields have risen from an average of 884 kilogrammes per hectare over the five-year period 1948/52 to 1,070 kilogrammes per hectare in the last three years.

Among the other importer countries, only Peru seems to have achieved any expansion. Its production rose by 4.5 per cent, thus attaining a volume of 170,000 tons, despite the serious incidence of rust in the highland zones which constitute the main producing area. Through the ten years' unremitting research work of their experimental stations, the authorities have been able to obtain some strains which are sufficiently resistant to rust to warrant their cultivation. But Government services are still finding efficient seed distribution difficult, owing to a lack of access roads and because extension services are too limited. As a result, only 10 to 15 per cent of the farmers have benefited from the distribution of such seed.

Colombia pursued its policy of encouraging wheat production by maintaining the incentive of high prices and expanding genetic research programmes, but unfavourable weather conditions—particularly heavy rainfall—had a detrimental effect on production, which fell by 9 per cent to only 160,000 tons. Conversely, Ecuador seems to have increased its output by about 10 per cent, thanks to the energetic action of the Comisión Nacional del Trigo.

In the remaining countries—which for the most part do not possess large enough areas with suitable ecological conditions, and where wheat-growing has been fostered more or less artificially by protective government measures—a recessive process seems to have begun. The measures in question, particularly guarantee prices, were not as energetically implemented as in the past; the areas under wheat and the volume of production have thus contracted to some extent. In Bolivia, Guatemala and Venezuela fairly substantial decreases were registered, while production seems to have remained stationary in Paraguay.

The high levels of wheat production, the substantial exports in 1955 and the prospects of continued production in excess of domestic requirements, qualify Uruguay as a large regional exporter.

Since the recent crop year witnessed the same profitable price as the previous year (16.50 Uruguayan pesos per quintal),[16] the area sown and production reached new peak levels of 771,600 hectares and 853,600 tons, respectively.

Thanks to a 9 per cent increment in the area under wheat and to the excellent weather for winter cereals, in 1954/55 Argentina's production advanced substantially in relation to the previous harvest.[17] A volume of 7.69 million tons was reaped, which is a record for the last 13 years.

In 1954/55, the combined production of Argentina and Uruguay rose to a total of 8.54 million tons. In addition to carry-over stocks from the previous crop, the available surplus stood at 9.85 million tons, so that, excluding the tonnage required for domestic consumption, an exportable surplus of 6.1 million tons was reached. (See table 30.)

Table 30. Argentina and Uruguay: Wheat availabilities and destination

(Thousands of tons)

	1954	*1955*	*1956*
I. Surpluses on 1 January........	1,213	1,306	2,047
II. Production	7,019	8,544	5,640
III. Total availabilities at close of harvest (I + II)...........	8,232	9,850	7,687
IV. Exports	3,363	4,083	...
V. Net availabilities (III — IV)..	4,869	5,767	...
VI. Balance at close of year.......	1,306	2,047	...
VII. Consumption (V — VI)........	3,563	3,720	...

Source: Official statistics.

The appreciable drop in world demand which is partly a consequence of increased domestic production in importing countries, the growing surpluses accumulated on the international market and the downward price trend all caused anxiety over the size of wheat availabilities at the end of the 1954/55 harvest. There were serious doubts whether stocks outside regular trade agreements could be sold without incurring severe losses in terms of prices or of wastage due to prolonged storage.

By August 1955, however, a pronounced improvement had taken place. Only 2.34 million tons remained unsold in Argentina and about 237,000 in Uruguay. Argentine stocks accounted for about 5 per cent of the aggregate surpluses accumulated by the four main exporters of the world, a peak 44.37 million tons.

At the close of 1955, Argentina had shipped sligh more than 3.6 million tons, while Uruguay's 501,0 tons represented a record export level. Even before t close of the normal trade year adopted in Argentina December–30 November) and on the basis of the wor trade year (July-June), Latin America appeared to recovering gradually its former position on the wor wheat market. The region contributed 15.6 per cent world exports in 1954/55 compared with 13.7 per ce in 1953/54 and 11.1 percent in 1949/50.

The bilateral agreements signed by both countries an the fact that they belong to the group of "inconvertib currency exporters" were of great assistance in sellin crops and enabled large shipments to be made at th cost of minor price concessions.

During the first nine months of 1955, prices for Argentine and Uruguayan wheat exports declined in relation to the 1954 average. Argentina's exports, for example, averaged a price of 68 dollars per ton,[18] again 69.70 in 1954. The 2.6 per cent decrease is slightly mor than that which affected Australia and Canada, some o whose transactions are protected by the Internationa Wheat Agreement, to which Argentina has not subscribed.

According to the scanty published information, sharp reduction in Latin America's wheat productio may be forecast for 1955/56. In Argentina, the incidenc of anti-economic factors arising from official policy—mainly the maintenance of the same basic price as i the previous year—have caused changes in many farm programmes, with a consequent reduction in the cultivated area. Furthermore, bad weather prevented adequate soil preparation and caused a substantial drop in the area that could be harvested profitably. In November 1955, the new Argentine Government established modified price levels for wheat[19] and other agricultural products. Although the new prices did not affect sowings, they may have encouraged a slight increase in the proportion of the harvested area and, even more important, provide greater incentives for future production.

In Uruguay, where the prejudicial influence of the high guarantee price established in former years began to be felt, the price was reduced from 16.50 to 14.00 Uruguayan pesos per quintal for producers farming more than 250 hectares. This measure had the desired effect since production declined to 820,000 tons.

The wheat crop was seriously damaged in Chile by adverse meteorological conditions of various kinds and the harvest is thus expected to be some 100,000 tons lower than in 1955.

The lower volume of production in the Latin American exporting countries during 1955/56 will reduce, at least temporarily, the many problems arising from marketing abroad. The growing surpluses on the world market, the steady downward price trend and, in particular, the sale of United States wheat, by virtue of the programme for liquidating surpluses under very favourable terms for purchasers, all suggested many problems in selling the region's exportable balances.

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[16] At the basic export rate—1.51 Uruguayan pesos to the dollar—the price per quintal would stand at 10.99 dollars.

[17] Production increased by 24 per cent in relation to 1953/54.

[18] Converted at 5 Argentine pesos to the dollar, the prevailing rate for wheat exports during the months in question.

[19] The new price was pegged at 70 Argentine pesos per quintal, representing a 40 per cent increase.

But the sharp decline in Argentina's present crop has
de it necessary to stop the sale of some of the unsold
cks remaining from the previous harvest, in order to
et commitments. Argentina will thus be unable to de-
er the 1.2 million tons stipulated in the 1955 agreement
ned with Brazil and negotiations have begun to reduce
ch exports to 900,000 tons. As a consequence, Uruguay
s benefited indirectly from this situation, since the
tire harvest could be sold.

Nevertheless, the future outlook is uncertain, particu-
ly in view of the competition from United States
heat. Uruguay is considering a further reduction of
e guarantee price level in order to limit the area under
is crop. Argentine is confident of its competitive market
sition on the basis of the quality of its wheat.

2. MAIZE

Mainly as a result of poor Argentine harvests, Latin
merica's maize production dropped substantially in
954/55. Total output of 17.5 million tons represented
14.1 per cent decline in relation to 1953/54. But, if
rgentina is excluded, slight progress has been made by
e rest of Latin America—14.98 million tons as com-
ared with 14.8 millions—even though the increase did
ot suffice to maintain the same per capita level as in
953/54. (See table 31.)

Table 31. Latin America: Maize Production

(Thousands of tons)

	Argentina	Other countries	Latin America
949/50	836.4	13,253.1	14,089.5
950/51	2,670.0	14,927.1	17,597.1
951/52	2,040.0	13,004.1	15,044.1
952/53	3,550.0	13,522.3	17,072.3
953/54	4,450.0	14,805.5	19,255.5
954/55[a]	2,546.0	14,979.9	17,525.9

Source: Official statistics.
[a] Provisional statistics.

In view of declining yields, priority has been given to
he improvement of strains and farming methods. Most
ountries have achieved good results by introducing se-
ected varieties, while, at a later date, hybrid maize
trains have been developed which have raised yields
y 50 per cent in some cases. Production of these strains
as already gone beyond the experimental stage and they
re being reproduced commercially in Brazil, Chile, Co-
ombia, Mexico, Peru, Venezuela and other countries.
Except for Chile, however, where maize is relatively
nimportant, the use of hybrid seed has not become as
videspread as might be expected. (See table 32.)

Table 32. Latin America: Availabilities of hybrid maize seed and percentage of area under maize sown with these strains in selected countries, 1954/55

	Availabilities of hybrid seed (Tons)	Area sown as a percentage of total area under maize
Argentina[a]	4,340	7.2
Brazil	6,450	6.0
Chile[b]	500	50.0
Mexico	5,400	6.1
Peru	37	0.6
Venezuela	120	3.0

Source: Official statistics.
[a] In addition, 4,250 tons of seed improved by free pollination were produced.
[b] Agricultural year 1955/56.
[c] Improved and hybrid seed.

In 1954/55, the maize crop in Argentina dropped to
one of the lowest levels during the post-war period; pro-
luction of 2.5 million tons represents decreases of 43
and 70 per cent in relation to 1953/54 and the pre-war
eriod (8.2 million tons), respectively. The summer
lrought caused so much damage that only 62 per cent
of the area under maize could be harvested; under nor-
nal conditions this proportion is never below 70 per
ent. Unfavourable relative prices, however, represented the decisive factor in this sharp reduction, because they have resulted in the displacement of maize by more profitable crops since the mid-forties. Moreover, ever-lower yields caused by the progressive impoverishment of the soil in Argentina have aggravated the situation. While in the period 1929/30-1931/32 an average 1,980 kilogrammes were obtained per hectare, in 1951/52-1953/54 the yield dropped to 1,592 and declined still further to 1,370 in 1954/55. As a result, the area under maize contracted from an average of 6.7 million hectares in 1933/34-1937/38 to only 3.2 and 3.0 millions in 1953/54 and 1954/55 respectively. The small volume of the 1954/55 harvest not only limited maize exports to 375,000 tons, against 2.2 millions in 1954, but also influenced shipments of oats, a higher proportion of which were required to cover the deficit in animal feed stocks.

In Cuba, where production had been stimulated by guarantee prices and some surpluses have accumulated, such prices had to be reduced in order to restrict sowing. The result was immediately apparent, since production amounted to only 178,000 tons, or 25 per cent less than in 1953/54.

Bad weather damaged sowing and yields in Colombia, Ecuador, Uruguay and Venezuela and the production of these countries thus declined somewhat. Thanks to a small expansion of the cultivated area and better yields, Brazil obtained a crop which was 2 per cent above that of the previous farm year. Although this harvest constituted a record for Brazil, minor imports were necessary to cover the demand of large centres where production was inadequate. Thus the paradoxical situation arose whereby, owing to the lack of transport, very low prices were quoted for maize and the crop was wasted in some productive areas (Triángulo Minero, Goias, Matto Grosso, etc.), while large consumer centres arranged imports from the United States.

The increasing use of genetic seeds in Chile led to a substantial improvement in yields and a record harvest (102,400 tons) which was 40 per cent above the 1953/54 level.

Mexico's production expanded to 4.7 million tons and imports were virtually unnecessary, since only 900 tons were received as compared with 144,000 in 1954 and 373,000 in 1953. Abundant rainfall, minimum price levels and official credit programmes[20] all contributed to the betterment of domestic supplies. The effects of the improved seed programme—sponsored by the Comisión Nacional del Maíz, which delivered 5,400 tons of hybrid maize seed to farmers—is beginning to be felt.

There were some domestic maize shortages in Central America during 1955, particularly in the first six months, owing to the poor crop of 1954 which was 14.5 per cent lower than in 1950 and 12 per cent below the 1949-53 average. Guatemala—which had become self-sufficient some years ago and had even exported some tonnages to El Salvador and Mexico—encountered domestic problems which had serious repercussions on the agricultural scene. The cultivated area contracted and an output of 368,000 tons (against an annual average of 432,000 in the period 1949-53) proved inadequate to cover consumer requirements. Hence, before the 1955 harvest began to enter the market, it was necessary to import 337,000 tons of maize. This tonnage, mainly purchased from the United States and Mexico, undoubtedly represents the peak import figure for the last ten years.

The traditional disequilibrium in El Salvador between natural resources and the population became more acute as a result of the poor harvest in 1954; it was aggravated by the expansion of cotton production which obliged the farming of cereals to be shifted to marginal and low yielding land. In 1955, therefore, imports of maize, which is the basic foodstuff in El Salvador's diet, rose to 42,000 tons from 23,700 in 1954 and an average of 13,000 annually in the period 1950-53. For the first time in many years Honduras was obliged to import maize because of damage caused by hurricanes and floods. These imports totalled 3,000 tons and were mainly used to offset exports to El Salvador despatched between November 1954 and April 1955. It was also unique during the recent past that Costa Rica's harvest was insufficient; 7,000 tons of yellow maize for the manufacture of feed concentrates had to be imported from the United States. Nicaragua was the only Central American country where impo were unnecessary in 1955, although exports to El Sal dor declined sharply when the replacement of maize cotton in the traditional farming areas of the Paci zone caused production to fall.

The situation will probably alter significantly in 19 Guatemala harvested 463,000 tons of maize in 1955, 7 per cent higher than in 1949-53, so that domestic r quirements will probably be covered without recourse imports. Production in Honduras and Nicaragua h been satisfactory; it is expected to supply the entire d mestic market and to raise the traditional exports to Salvador. Conversely, it is thought that a peak level 46,000 tons will be reached by El Salvador's impor since the 1955 harvest was even smaller than that of th previous year.

3. RICE

Rice is undoubtedly one of the crops which has d veloped most rapidly in Latin America. Without excep tion, all the countries of the region grow rice and mo of them have more than doubled their production sinc the pre-war period; some—Chile, Ecuador, Mexic Uruguay and, more recently, Venezuela—have attaine complete self-sufficiency and even exported small ton nages. The 1954/55 harvest, representing 5.6 millio tons of unpolished rice, surpassed the previous year b 10.8 per cent and stands 200 per cent above that o 1933/34-1937/38. The previous trends in rice produc tion has thus been reaffirmed. The exceptional progress is still more remarkable when it is compared with th evolution of this crop elsewhere in the world. In fact world production in 1954/55 was 4 per cent lower than in the previous year and barely 7 per cent higher than in 1933/34-1937/38. (See table 33.) In 1954/55 Lati America accounted for 3.4 per cent of world outpu which compares favourably with the 1.2 per cent in th pre-war period.

Table 33. Latin America: Rice production

	World		*Latin America*		*Latin America in relation to the world (Percentage)*
	Thousands of tons	*Index*	*Thousands of tons*	*Index*	
1933/34-1937/38	151.147	99	1,892	46	1.2
1947/48-1949/50	152,323	100	4,133	100	2.6
1953/54	170,629	112	5,054	122	2.9
1954/55	164,117	107	5,602	135	3.4

Source: ECLA and FAO.

[a] Excluding the Soviet Union.

The accelerated development of rice production has steadily covered an increasing proportion of the requirements for domestic consumption, while imports have dropped from an average of 390,000 tons in the pre-war period to some 214,000 tons in 1954. Imports for 1955 are as yet unknown, but in view of the sharp production increment they cannot have exceeded 190,000 tons. Hence, imports have almost certainly declined by over 50 per cent between 1934-38 and 1955.

The rise of almost 550,000 tons in Latin America's rice production since the 1953/54 crop was mainly based on Brazil, where the rice output grew from 3.36 million tons to 3.92 millions in 1954/55. Brazil has thus recovered its share of regional production in the pre-war period and in 1949/50 by contributing 70 per cent of the aggregate instead of only 63 and 66 per cent in 1952/53 and 1953/54, respectively. Progress by Brazil was mainly ributable to better yields, to good weather in the main oduction centres and to the use of better farming techques which are becoming widespread in rice-growing eas.[21]

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[20] From December 1944 to June 1955, guarantee prices for maize rose steadily in Mexico. The increase in average prices ranged from 12 to 16 per cent and partly offset the unfavourable effect of devaluation on the relative prices of maize.

Brazil was formerly the main rice exporter of Latin merica. Nevertheless, for a variety of reasons, particurly low prices on the world market and the unfavourle exchange rate for exports, shipments abroad dened rapidly and disappeared altogether in 1954. ubstantial surpluses thus accumulated in the State of io Grande do Sul, which were purchased by the Govnment for export in 1956 when a more favourable change rate was established.

Venezuela is outstanding as a country where rice proction has developed rapidly, increasing from 13,000 ns only in the pre-war period to 49,000 in 1953/54 d to 73,000 in 1954/55.[22] The vital elements contribting to the expansion were, on the one hand, technical d economic aid given to farmers by the Corporación enezolana de Fomento by means of a special rice deelopment programme initiated in 1949 and, on the ther, the establishment of minimum guarantee prices y the Banco Agrícolo y Pecuario. Since self-sufficiency as been attained, efforts are now being aimed at conolidating the situation. To this end, attempts are being ade to transfer crops at present grown on unirrigated oil, with low yields and high production costs, to irriated land. This transposition will be achieved gradually y means of settlement programmes.

Production also increased considerably in Ecuador, eaching 70,000 tons in 1955 and thus recovering the revious level, which had dropped to only 46,000 tons in 954. Nevertheless, exports from Ecuador could not be raised above the 1954 level (about 20,000 tons) because world prices were depressed.

In 1955, Chile obtained its peak production during recent years, slightly more than 93,000 tons, which was occasioned by better yields[23] and to an expansion of some 10 per cent in the cultivated area.

In Mexico, 178,000 tons of rice were harvested as compared with 170,000 in 1953/54 and over 180,000 in the period 1948/49-1950/51. Domestic supplies were thus ensured and approximately 20,000 tons, in addition to 17,000 remaining from the previous crop, will be available for export.

Cuba's rice crop remained very similar to that of 1954 (173,000 tons). Planters have had to face various problems, *inter alia*, a lack of water for irrigation, brackish water, loss of soil fertility and reduced credit availabilities. Production levels during recent years, however, have reduced the dependence of Cuba—the major rice importer of Latin America—on purchases abroad. In the period from August 1954 to July 1955, Cuba's imports from the United States (85 per cent of aggregate purchases) totalled only about 154,000 tons against 215,000 obtained from the same source in the period before 1954.

4. SUGAR

Approximately 10 million tons of sugar were produced in Latin America during 1954/55, a tonnage slightly inferior to that of 1953/54 (10.4 million) and the lowest for the region in the past five years. (See table 34.)

The reduction may be attributed almost entirely to the additional fall of 363,000 tons in Cuban production. Relative decreases also occurred in Argentina, Colombia, the Dominican Republic and Ecuador. Conversely, production in Central American countries as a whole, in Brazil, Mexico, Peru and Venezuela moved upwards.

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[21] The area under rice expanded by only 2.7 per cent and now xtends over 2.49 million hectares.

[22] These figures were published by the Banco Agrícola y Peuario of Venezuela. According to estimates of the Ministerio de Agricultura y Cría, however, production during the last two seaons totalled 57,900 and 102,300 tons, respectively.

[23] From 2,930 to 3,110 kilogrammes per hectare.

Table 34. Latin America: Sugar production

(Thousands of tons)

	1950/51	*1951/52*	*1952/53*	*1953/54*	*1954/55*
Regular exporters					
Cuba	5,759.1	7,224.5	5,159.2	4,890.4	4,527.6
Dominican Republic	540.2	588.2	630.5	633.7	613
Peru	463.8	470.4	602.2	610.7	614.4
SUB-TOTAL	6,763.1	8,283.1	6,391.9	6,134.8	5,755.0
Countries which are importers or occasional exporters					
Argentina	650.8	559.8	710.4	777.8	583.7
Brazil	1,485.1	1,591.9	1,752.0	1,995.3	2,124.9
Colombia	183.1	152.0	187.0	233.0	200.0
Mexico	651.9	691.1	779.3	830.4	910.0
Venezuela	45.3	64.9	71.8	97.1	144.0
Other countries	263.7	283.0	270.4	285.6	276.6
SUB-TOTAL	3,279.9	3,342.7	3,770.9	4,219.2	4,239.2
TOTAL, LATIN AMERICA	10,043.0	11,625.8	10,162.8	10,354.0	9,994.2

Source: Official statistics.

These trends reflect to a great degree the various factors which have influenced sugar-producing activities in Latin America, both in the traditional exporting countries and in those which import or occasionally export sugar. In fact the aggregate production of Cuba, the Dominican Republic and Peru—which belong to the first group—fell for the third consecutive year since 1951/52.[24] On the other hand the countries of the second group have shown steady progress in the last five years. But in 1954/55 the over-all increase was slight owing to lower Argentine production caused by a heavy frost which destroyed many plantations.

Cuba, the main Latin American exporter, faced many problems arising from market conditions and the surpluses accumulated in previous years. Consequently sugar processing was restricted to 4.5 million tons. This figure is the lowest for the post-war period, representing a 7.4 per cent decline in relation to 1954 and 27.3 per cent below the peak production obtained in 1952. Parallel to these successive decreases, the processing of rich molasses and syrups has helped to relieve the situation. The manufacture of these commodities had ceased in 1944, but was re-started in 1954 when 495 million litres were produced for export. In 1955, production totalled 874 million litres, which were also placed on the international market.

The Dominican Republic also restricted production, although to a minor degree. Peru is the only country among the traditional exporters which has not only maintained the high production level of 1953/54 but has also failed to encounter any major problem of surpluses. Production increments attained by Peru in the last few years have mainly been derived from better unit yields, thanks to the adoption of modern cultivation techniques for sugar cane. The degree of efficiency in processing and the higher yields allow Peruvian sugar to compete on the world market without any State protection.

Among the countries which grow sugar mainly for the domestic market, recent years have witnessed major effort to expand production and remarkable increases have been achieved in some cases. Brazil and Mexico, for instance, after attaining self-sufficiency, now face the problem of accumulated surpluses with no easy outlet to the market.

The situation in individual countries merits more detailed analysis. Mexico's sugar expansion continued in 1955 when 910,000 tons were produced, in contrast to 830,000 in the previous year and an average of 637,000 in the five-year period 1949-53. Apart from the self-sufficiency attained since 1947, the uninterrupted growth of production has allowed Mexico to enter the export market. Stocks have increased steadily since 1952 and have exceeded normal reserve levels for the domestic market; the surplus problem has thus appeared in Mexico. Sugar production in 1955 provided an exportable balance of some 106,000 tons, which, added to carry-overs from previous years, placed reserve stocks at the peak level of 310,000 tons in December 1955. To appreciate the gravity of the situation it should be recalled that under the present conditions for the world sugar trade, Mex can only rely on a sure market for 80,000 tons.[25]

Encouraged by minimum prices compatible with t costs for marginal producers, sugar production in Bra has grown at a higher rate than consumption. The S Paulo area accounted for most of the increment. 1954/55, 2.1 million tons were produced, or 6.5 per ce above the previous year and 31 per cent higher than t average for the five-year period. As in former years su stantial tonnages of cane were used to manufacture cohol, which prevented sugar output from being ev greater. Deducting domestic requirements of 1.8 milli tons, the recent harvest provided an exportable surpl of almost 300,000 tons.

Venezuela was able to cover domestic requirements 1955. Production amounted to 144,000 tons, in com parison with 99,000 a year previously and an averag of 66,000 for the preceding five years. Expansion sugar production constituted one of the basic pr grammes sponsored by the Corporación Venezolana d Fomento in co-operation with the Ministry of Agricu ture. The Corporation encouraged sugar-cane planting b providing credits and expanding processing faciliti through the installation of five new mills and the e tension of another. In addition, the Ministry of Agr culture has pursued profitable research activities con nected with genetics and has thus achieved a substantia rise in unit yields. The subsequent harvest is at presen a matter for concern, since it will probably provide surplus of 50,000 to 60,000 tons. Nevertheless, it i thought that measures to limit uncontrolled productiv expansion and others aimed at raising consumption ma obviate the risk. Otherwise the situation may be serious because high production costs in Venezuela do not enabl the surpluses to be sold abroad.

The sugar production programme was successfully im plemented in Uruguay. Production rose to 37,700 ton against only 20,600 in the previous year and 3,000 ton in 1949/50. Current output supplies about 40 per cen of domestic consumer requirements.

Any consideration of prices on the world market mus draw a distinction between free-market quotations an United States prices.[26] On the free market, the downwar trend was halted, a trend which had begun in 1954 whe the average price on the New York free market droppe by 3.7 per cent in relation to the 1953 average. In 1955 the decrease only represented 0.7 per cent in relation to 1954. On the other hand, the decline was far greater o the United States market—3.8 per cent—and reflected the downturn of prices for all foodstuffs in that country. Should this decline continue, it may be of importance for Latin America, inasmuch as a large share of Cuba's production is destined for that market, as well as various quotas from other countries.

More sugar was exported from Latin America in 1955 than in 1954 in terms of both volume and value. (See table 35.)

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[24] In reality, the decline was due to the sharp reduction in Cuba's production, since the Dominican Republic had a smaller harvest only in 1954/55, while production in Peru has risen steadily.

[25] At the session of 1 June 1955, the International Sugar Council established the Mexican export quota at 69,800 tons and to which must be added the tonnage sold on the United States market (11,000 tons).

[26] See again table 26.

Table 35. Latin America: Sugar exports from the region's four main sources, 1954-55

Country	1954 Volume (Thousands of tons)	1954 Value (Thousands of dollars)	1955[a] Volume (Thousands of tons)	1955[a] Value (Thousands of dollars)
Brazil	161.8	12,380	456.5[b]	36,512[b]
Cuba	4,202.4	401,200	4,642.3	431,500
Dominican Republic	490.7	35,500	556.1	39,800
Peru	422.2	32,147	465.5	34,751
	5,277.1	481,227	6,120.4	542,563

Source: Official statistics.

[a] Provisional figures.

[b] January-September.

Two main factors apparently contributed to the in-ement. Firstly, the U.S.S.R. purchased 568,000 tons om Cuba at the beginning of the year; secondly the covery of Brazilian exports was determined by the loption of a special exchange rate of 50 cruzeiros to e dollar, which allowed Brazilian sugar to be sold at mpetitive prices and outside the commitments of the ternational Sugar Agreement. The Brazilian Govern-ent advised the Council that, as it was not a party to e Agreement, it was not bound by the stipulations. This osition was adopted because Brazil did not believe its uota was commensurate to its export requirements.

Because exports were greater and the production of xporting countries declined in comparison with the revious year, the situation of sugar surpluses in the egion did not deteriorate. Certain countries, however, re still confronted with difficulties for the sale of their xportable surpluses. By the close of 1955, these stocks ad reached 2.3 million tons, which is 10.8 per cent less ian at the same date in 1954. In Cuba, the surpluses ell by 322,000 tons (from 1.95 to 1.62 million tons at ie end of 1954 and 1955, respectively). In the Domini-an Republic, accumulated reserves declined by 21,000 ons and remained at only 54,000 tons in 1955. Only in Iexico did surpluses increase—from 203,800 to 10,000 tons.

Although the surplus problem is still unsolved, most atin American producers continue to encourage projects or the development of the sugar industry. For example, vo new mills—each with double the capacity of any xisting plant yet established in the country—are being uilt in the Dominican Republic. In addition, cane is eing planted in areas (estimated at 28,000 hectares) hich were formerly under rice.

It is estimated that in Mexico—according to present rocessing capacity and the sowing which is being under-ken—production may rise to 1.5 million tons in the ear future. The increase in sugar production originated a plan begun in 1950 with a target of 1 million tons y 1960 which was virtually attained in 1955.

Bolivia, which relies largely on sugar imports, has an-ounced that the sugar mill in construction at Montero ill enter operation in May 1956 and that a further lant will soon be built.

Chile is a newcomer to regional sugar production. Vork has already begun on the construction of a second beet-sugar processing plant in the Llanquihue area. The addition of this mill, with an annual processing capacity of 20,000 tons of sugar, will raise aggregate installed capacity to 40,000 tons annually.

Countries which only produce for domestic consumption have achieved an expansion of output principally through the guarantee price policy adopted by governments. Thus sugar production in Uruguay and Venezuela is heavily subsidized by consumers and the State. Guarantee prices are also paid to farmers in Bolivia, Brazil and Chile.

5. COFFEE

According to preliminary estimates of Latin American coffee production for 1954/55—based on official figures published by some countries before December 1955—the volume of the harvest amounted to 2.04 million tons. A later revision of the production figure in Brazil, however, in the light of the export volumes registered by the Instituto Brasileiro do Cafe, raises the over-all level of production in Latin America to about 2.2 million tons. This constitutes a record, since it is almost 15 per cent higher than in the previous year and 7 per cent above the 1934-38 average. (See table 36.)

Not only did the weather favour high yields in the main producer countries, but this was the first year when production began to reap the full benefit of the new coffee plantations opened up in the late 'forties under the stimulus of a rise in coffee prices which had been practically uninterrupted since 1946. The exact extent of the area at present under coffee is not known, but it is estimated that in 1955 more than 150 million new trees entered full production. All producer countries, but particularly Brazil, Cuba and some Central American countries participated in this development. Despite the price decline of 1954, plantations have continued to expand, although at a much slower rate.

The good harvest obtained in 1954/55 for marketing during the 1955/56 coffee year upset the short-lived balance between supply and demand; surpluses again began to accumulate in the main producer countries. The reduction of almost 138,000 tons in United States consumption during the trade year which closed on 30 June 1955 contributed to an increase in the unsold stocks held by Brazil and Colombia. Data on other countries are unavailable, but such stocks are presumed to have

Table 36. Latin America: Coffee production, 1949/50 to 1954/55

(Thousands of tons)

Countries	*1949/50*	*1950/51*	*1951/52*	*1952/53*	*1953/54*	*1954/55*
Brazil	1,071.4	1,080.2	1,125.4	1,110.6	1,037.0	1,320.0
Colombia	337.8	302.3	402.7	384.0	404.0	424.0
Cuba	39.8	32.7	28.7	35.7	38.6	46.5
Dominican Republic	25.0	31.0	34.5	33.5	32.6	29.5
Ecuador	23.4	21.6	24.2	19.2	28.3	22.6
Haiti	29.3	35.3	27.2	35.9	23.8	27.3
Mexico	68.1	70.8	87.6	84.9	93.0	80.4
Panama	2.8	3.2	3.9	3.5	4.0	3.6
Peru	5.6	6.0	8.9	9.6	9.6	9.6
Venezuela	50.7	34.0	43.3	54.0	41.3	53.4
Central America[b]	175.0	166.2	203.8	176.6	205.6	182.0
TOTAL	1,828.9	1,783.3	1,990.2	1,947.5	1,917.8	2,198.9

Source: Official statistics.

[a] Estimate taken from *Foreign Crops & Markets,* Vol. 71, No. 23 (5 December 1955).

[b] Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

been negligible. In the two instances given, however, they rose in the aggregate by 234,000 tons (3.9 million bags) in relation to the same date in the previous year, thus reaching a total of 606,000 tons (10.1 million bags), of which the Brazilian Government bought and withdrew from the market an estimated 192,000 tons (3.2 million bags.)

Information on coffee-roasting in the United States during the current coffee year (1955/56) indicates a decided recovery in that country's consumption. The marked expansion of Brazilian and Colombian exports to Europe and the rest of the world also reveals a patent trend towards a return to the 1953/54 levels. Nevertheless, even if world consumption should attain the same volume as in that year—1.98 million tons—surplus stocks at the end of the present trade year (30 June 1956) will exceed those held on the same date in 1955 by the least 180,000 tons. Part of this surplus, however, may be incorporated into the normal reserves accumulated by consumer countries to facilitate distribution.

The frosts which ravaged the coffee plantations in the State of Paraná, Brazil, in August 1955, temporarily eased the problem of coffee surpluses by wiping out practically the whole of the large increment in Latin American production (from 240,000 to 300,000 tons) forecast for the 1955/56 harvest. Before this contingency, bad market conditions and the threat of their deterioration with the sale of the 1955/56 harvest induced Latin American coffee producers to hold several meetings at which they agreed to establish an International Coffee Bureau and to prepare an emergency plan to meet the situation. The agreements included the creation of buffer stocks to prevent violent price fluctuations and the expansion of world consumption through the technical and economic collaboration of the member countries. As a first step, the emergency plan provided for the establishment of export quotas for the 1955/56 coffee year and recommended that stocks should be sold only at prices ranging from 50 to 60 dollar cents per English pound c.i.f. New York. Moreover, it was resolved to continue or to organize the financing of stocks, while other measures of a purely local character were adopted. The weakness of this undertaking was that the agreements were concluded by producers and not by Governments, and in addition non-Latin American producers did not attend the meetings; hence the efforts proved abortive. At a later date, the Ministers of Finance of Colombia and Brazil met to reach more definite accords; but, in view of the frosts which affected Brazilian production at that precise moment, the Ministers confined themselves to issuing a statement that the losses caused by frost had restored the statistical balance of production, and to adopting preliminary resolutions for dealing with future emergencies. They also agreed, among other measures, to guarantee adequate price supports for the planters and not to encourage production in areas unsuited for the crop.

If production is analysed by countries, Brazil stands out as the leading contributor to the increment registered in Latin America during 1954/55. In fact, the production level is estimated to have reached at least 1.32 million tons,[27] that is, 27 per cent above the previous year's level and 17 per cent higher than the peak postwar crop registered in 1952/53. The size of the harvest may be attributed to the following causes: (*a*) excellent weather conditions in most of the major production areas, which permitted yields very similar to that of the preceding year or even larger, although 1954/55 corresponded to the downswing in the biennial production cycle; (*b*) the entry into production of more than 100 million coffee trees from three to five years old, many of which had been damaged by the frosts that had affected production in the preceding year; (*c*) the fact that most of these coffee trees are planted in very fertile virgin soil, in areas which were reclaimed specifically for coffee cultivation; (*d*) the increasing use, in modern plantations, of new high-yielding strains, particularly o Mundo" and "Bourbon Amarelo"; and (*e*) better ing practices, which, though applied on a small , are giving very satisfactory results.

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[27] According to the provisional figures published by the Production Statistics Service of the Ministry of Agriculture, the coffee crop seems to have amounted to 1.17 million tons. But estimates made by the Instituto Brasileiro do Café and by the Department of Agriculture of the State of São Paulo—on the basis of the coffee registered for export on the books of the former organization up to 20 January 1956—bring exportable production up to 1.2 million tons (20 million bags). Since domestic consumption cannot be less than 180,000 tons (3 million bags), this would mean that the volume of production was 1.38 million tons (23 million bags). The figure calculated by the United States Foreign Agricultural Service, namely, 1.32 million tons (22.2 million bags), can be given as a conservative estimate.

actically 80 per cent of the increment in Brazil's uction was accounted for by the State of Paraná, e the 1954/55 crop was three times larger than the ious year's (rising from 117,600 tons to almost 00).[28] It was in this State that plantations were ıded to the limit of available labour, capital and port facilities, by the utilization of vast tracts of y fertile land known as "terra roxa".[29]

ie Paraná coffee-growing district, however, seems on the climatic borderline for this crop, and twice dy (in 1953 and 1955) plantations have been dev- ed by quite severe frosts. The last seems to have usly damaged about 75 per cent of the area under e. According to official estimates, production in /56 will fall below 60,000 tons (1 million bags), h would imply a loss of approximately 300,000 tons. ite these setbacks and the fall in the price of coffee, ting has continued, although at a slower rate than years ago.

ie coffee sector's income improved in the last agri- ıral year, not only because of the larger volume har- d, but also on account of the Government's policy of anteeing planters a minimum price. The minimum r price for exports was reduced, the exchange rate coffee was devaluated—by transferring it from the category (31.5 cruzeiros to the dollar) to the second 06 cruzeiros to the dollar)—and large stocks of cof- were purchased through the Production Financing ice.

vailable data on Colombia are to some extent contra- ory, but, to judge by exports statistics and various ted figures, production may be estimated at 424,000 which is 5 per cent above the previous year's level.

ie unfavourable effects on the country's economic ities produced by the drop in world coffee prices the decline in exports during the last quarter of and the first half of 1955, induced the Colombian ernment to advocate a policy of protection for the e sector. Among other measures, a minimum price coffee was established, and the Federación Nacional Cafeteros was authorized to buy up the whole of the ut on the Government's behalf. This organization able to draw upon the resources of the Fondo Na- al del Café and upon credit granted by the Banco a República. The exchange rate for coffee was also d from 2.38 to 2.5 pesos to the dollar.

iseasonable weather in the coffee areas of Mexico ed a small crop of only 80,400 tons, representing crease of 13.6 per cent in relation to that of the eding year. Nevertheless, it should be recalled that area under coffee has continued to increase thanks ie development programme of the National Coffee mission. Between May and July 1955, the Commission distributed, free of charge, 3.2 million coffee trees and a great deal of selected seed.

In the Central American countries, rains in February and March resulted in early flowering which were later ruined by drought. When the rainy season set in steadily, the trees flowered again, with the result that the crop ripened unevenly. Consequently, harvesting was prolonged, costs rose, the quality of the beans deteriorated and the income of the planters was adversely affected. Thus the harvest amounted to only 182,000 tons, and failed to equal the preceding year's record crop of 205,600 tons.

Cuba, which in recent years had barely managed to supply domestic requirements, produced 46,500 tons in 1955—in contrast with only 38,600 in the previous year—so that an exportable surplus of 7,000 tons was obtained.

The marketing of Latin America's coffee production had entered a phase of definite deterioration at the beginning of 1954 and no prospects of improvement came into sight until mid-1955. Prices had fallen sharply and exports had declined to their lowest level in recent years. As from June, however, the situation improved appreciably. Prices partially recovered, and exports to the United States, particularly from Brazil, increased at a rapid rate. By the end of 1955, Latin American exports had reached 1.52 million tons and exceeded the previous year's volume by 16 per cent.

The circumstances which brought about this situation may be summarized as follows:

(*a*) Coffee prices began to fall in April 1954 and continued to do so until June 1955, owing to lower consumption levels and a considerable decline in exports, to an over-estimation of supply and to the hope entertained by consumers that the cruzeiro would be still further devaluated and that the dollar price of coffee would thus be reduced. In consequence of a smaller volume of imports, supplies of coffee beans in the United States dropped to the lowest level recorded since 1948—86,400 tons on 30 September 1955—while consumption little by little reverted to normal in 1955. The combination of these two factors brought about a marked rise in demand, reflected in the rapid increase in imports during the second half of the year. (See table 37.)

(*b*) European demand for coffee from Latin America—especially from Colombia—also expanded considerably, thus helping to account for the region's heavier exports.

(*c*) The great demand for Colombian coffee resulted in so considerable a reduction of consumer stocks in the main importing countries that mild grades were to some extent in short supply. Consequently, quotations for Colombian coffee on the New York market exceeded those for Brazilian coffee by a larger margin than usual.[30]

(*d*) Exports from other Latin American countries rose by 10 per cent, a development for which Costa Rica, Mexico and Nicaragua were mainly responsible. African exports, especially to the United States, also increased.

Up to 20 January 1956, the Instituto Brasileiro do Café had dy registered 310,000 tons (5.2 million bags) from the State raná.

According to a study made by the Instituto Brasileiro do in 1955 there were about 720 million coffee trees in the State raná.

[30] The usual difference between prices for Manizales and Santos grades is about 4 dollar cents per pound; in the final months of 1955, the difference exceeded 14 cents per pound.

Table 37. Latin America: Exports from the main coffee-producing countries, 1954-55

(Thousands of tons)

Country	1954		1955	
	By country of destination	*Total*	*By country of destination*	*Total*
Brazil, shipments to:		653.1		830.0
United States	340.4		474.6	
Europe	250.3		290.0	
Other countries	62.4		65.4	
Colombia, shipments to:		344.6		351.4
United States	297.1		287.9	
Europe	40.5		57.5	
Other countries	7.0		6.0	
Costa Rica	—	23.3	9	29.1
Dominican Republic	—	23.6	—	24.4
Ecuador	—	21.1	—	23.1
El Salvador	—	62.2	—	66.6
Guatemala	—	52.1	—	53.4
Haiti	—	31.8	—	19.6
Honduras	—	9.6	—	9.2
Mexico	—	69.0	—	83.5
Nicaragua	—	17.1	—	27.4
GRAND TOTAL	—	1,308.0	—	1,518.3

Sources: Brazil: *Anuario Estadístico*, No. 47. Colombia: *Revista del Banco de la República*, December 1955. Other countries: Official statistics.

Despite the improvement in the export situation during the latter part of 1955 and first months of 1956 and the return to normal of United States consumption, the outlook for the future does not appear very promising unless arrangements for the control of the market are agreed upon among all producer countries. As was indicated, the decline in United States consumption left an exceptionally large surplus in the two principal producer countries. Despite the considerable expansion in consumption during the present year,[31] it is probable that by June 1956 the excellent crop just harvested will leave a surplus in Brazil and Colombia which may well amount to about 600,000 tons (10 million bags).

It should be recalled that the possibilities of expanding production over the medium term are directly linked not only to the production of new plantations, but also to the prospects of obtaining higher average yields, especially in Brazil, by virtue of improved farming practices and the fact that, on the average, the new plantations will have reached their phase of highest productivity.

6. COTTON

In 1955, the region's cotton output again reached a record level of 1.22 million tons—which was 5 per cent higher than the preceding year's and 23 per cent above the average for the last five years. Moreover, these levels represent an 80 per cent improvement in relation to the regional average during the pre-war period. Thus, the proportion of world production for which Latin America was responsible rose from 9.8 to 16.7 per cent between the pre-war period and 1955.

In the year under consideration, as before, Mex and the Central American countries accounted for m of the increment. Their share in the regional aggreg is now 556,000 tons or 45.6 per cent, which compa very favourably with the 75,300 tons (12.7 per cen which they contributed in the pre-war years. On reachi the 461,000-tons mark in 1955, Mexico became the ma Latin American producer, displacing Brazil from th position. Mexico's production in 1955 should be co pared with the volumes of 390,000 and 260,000 tons tained in 1954 and 1950 respectively. (See table 38.)

Table 38. Latin America: Production of cotton fibre

(Thousands of tons)

Country	*1933/34-1937/38*	*1949/50*	*1953/54*	*1954*
South America				
Argentina	54.2	142.0	138.2	11
Brazil	355.0	393.0	395.2	40
Colombia	5.8	8.7	27.9	2
Ecuador	1.9	3.1	2.1	
Paraguay	11.4	15.0	14.4	1
Peru	84.0	73.5	111.9	9
Venezuela	2.4	2.7	4.5	
SUB-TOTAL	514.7	638.0	694.2	66
Mexico, Central America and the Caribbean				
Mexico	72.7	260.0	389.7	46
El Salvador	1.1	6.8	20.3	2
Guatemala	0.4	0.6	9.0	1
Nicaragua	1.1	6.8	47.4	4
Haiti	...	1.5	1.4	
Honduras	...	1.5	1.9	
SUB-TOTAL	75.3	277.2	469.7	55
TOTAL, LATIN AMERICA	590.0	915.2	1,163.9	1,22
World production[a]	6,001.0	6,718.5	7,012.9	7,31
Percentage of world aggregate contributed by Latin America	9.8	13.6	16.6	1

Source: ECLA and FAO.

[a] Excluding the U.S.S.R. and other Eastern European countri

Cotton cultivation has developed rapidly in Mexi during recent years on the new land reclaimed by irrig tion. Apart from the expansion of the area under cotto unit yields have improved from 347 kilogrammes p hectare in 1949-53 to 462 in 1955, particularly throu the decline of dry-soil planting and to a more widespre use of fertilizers. It is in the areas under cotton that t most advanced techniques are applied, and machiner fertilizers, insecticides and weed-killers are extensive utilized.

The last crop left Mexico with an exportable surpl of about 380,000 tons. As a result of strong competiti from United States cotton on the world market and the fact that world production has been increasing at faster rate than demand, the Mexican Government h decided to restrict expansion. To this end, it will contr sowing during the next season.

Although Central America produces less cotton tha Mexico, development has been even swifter and mo tacular. In 1948 production barely reached a level ,000 tons, but in 1955 it had advanced to 92,800. 1955 crop was 18 per cent larger than the preceding 's and almost one-and-a-half times greater than the rage volume of annual production during 1950-54. ile in 1954 the country which contributed most to the rgement of Central America's cotton output was aragua, where production practically doubled in 1953, 955 planting increased most intensively in El Salva- and Guatemala. In the former, the area under cultiva- grew from 29,000 hectares in 1954 to 46,000 in 5, and in the latter from 16,000 to 21,000 hectares. the other hand, the area under cotton in Nicaragua ained practically stationary at about 87,000 hectares.

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[31] Coffee year 1955/56.

he post-war period of high cotton prices constituted main incentive to the expansion of this crop in the tral American region. But even when prices fell rply, the high yields obtained—which are among the in the world and permit of relatively low production s—contributed to the continuance of the development cribed. These harvests, which in 1955 rose to 646 grammes of fibre per hectare in El Salvador and 610 grammes in Guatemala, are produced without irriga- and thanks to modern machinery and methods as as to plague control. Central American yields—like xico's—are much higher than those of the South erican countries (except Peru) and other major ducers, such as the United States. (See table 39.)

ble 39. Comparison of cotton fibre yields per hectare in countries of Latin America and other regions

(Kilogrammes per hectare)

	1954	*1955*
Salvador	637	646
temala	552	610
ico	424	462
aragua	580	430
entina	249	207
zil	159	170
ombia	336	...
u	508	440
ezuela	276	322
ted States	383	467
a	129	113
istan	220	226
pt	525	502

ource: ECLA and *Foreign Agriculture Circular*, 26 January 6.

Cotton planting has had the virtue of awakening the erest of Central American growers in the improve- nt of farming techniques (the use of modern ma- nery, selected seed, plague control, fertilization and p rotation, etc.); this development is helping to form ew generation of agricultural enterpreneurs of a cali- hitherto unknown in the region. Their influence and methods they use will no doubt spread to the remain- agricultural sectors of Latin America in coming rs.

n Brazil the last harvest, which amounted to 405,700 s, exceeded that of 1954 by only 2.7 per cent, and similar to the average for the last five years. The low, and to some extent decreasing, yields per hectare, attributable to the impoverishment of the soil and the consequent repercussions on production costs, perhaps constitute, in conjunction with difficulties arising from competition in the world market, the most serious problems affecting the cotton sector in Brazil. In fact, unit yields in this country are among the lowest in Latin America, together with those of Ecuador, Paraguay and Venezuela. Under these circumstances, the country has had to resort periodically to devaluation of the cruzeiro in order to compete in the world market and at the same time counterbalance the inflationary rise in internal costs. In May 1955, the exchange rate for cotton exports was transferred from the second to the third category,[32] which implied that the price paid to producers was substantially higher than in the previous year, despite the fall in world prices. This circumstance, in addition to the planters' desire to offset at least partially the damage caused to the coffee plantations by the August frosts, the fact that large areas formerly used for growing peanuts were abandoned because of the low price for this commodity, and the prospect of an over-all exchange reform, led to a considerable expansion of cotton-planting in the period 1955/56. This is confirmed by the sizeable increase in seed sales by the Department of Agriculture of São Paulo, which reached 1.5 million bags, thus approximately doubling the previous year's volume.

Cotton planting in Peru covered 225,000 hectares, the largest area on record. Although the water supply from most coastal rivers was normal, the weather affected the crop and promoted the onset of plagues and diseases, thereby raising production costs on account of the need to resort to plaguicides. Production (98,900 tons) dropped by 12 per cent in relation to the previous year's, which had been unprecedented. World market fluctuations had a direct effect on the planters' income, since the prices paid to the producer were more than 6 per cent lower than in 1954.

Latin America's cotton exports were larger in 1955 than in 1954, if those of Brazil are excluded. However, it should be recalled that the exceptional exports effected by Brazil in 1954 included a considerable proportion of the surpluses accumulated in 1952 and 1953, and that Latin America was thereby able to reduce the volume of its surplus stocks in 1954/55 from 464,800 to 436,900 tons. (See table 40.)

Table 40. Latin America: Cotton exports

(Tons)

	1954	*1955*	*Percentage variations*
Mexico	259,419	352,434	42
Brazil	309,486	158,927	—49
Peru	85,100	83,596	— 2
Nicaragua	23,200	43,300	87
El Salvador	8,400	17,200	105
TOTAL	685,605	655,457	—

Source: Official statistics.

Except for Nicaragua, Central America was able to place its whole cotton output on the world market without any great difficulty. Conversely, Mexico was unable to dispose of the whole of its last two crops. The exact size of the surpluses is not known, but they are estimated to have totalled 67,000 and 91,000 tons in 1954 and 1955 respectively. Brazilian exports benefited by the devaluation of the exchange rate for this commodity. At the end of the cotton-trade year (28 February), stocks are calculated to have stood at the same level as in the previous season (45,000 to 50,000 tons) and to have constituted no serious problem.

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[32] At the close of the year, planters were exerting pressure to have cotton moved to the fourth category.

Peru found little difficulty in selling its exportable production, since mainly long-fibred cotton is produced, which faces less competition on the world market.

To sum up: until the 1954/55 harvest, cotton production had been expanding steadily in those Latin American countries where the crop had been recently introduced and efficient methods of cultivation, resulting in high productivity, had been adopted. The sale of their exportable surpluses had presented no insurmountable difficulties to date, since the price decline had been successfully combated by low costs in countries where production is efficient, and by various protectionist measures in the rest.

At the end of the season, however, a significant change in this situation became apparent. The United States Government announced its new policy for the encouragement of its export trade, and this alone immediately caused a price decline and some unwillingness to purchase fibre on the part of consumer countries. T
change in the attitude of the United States is due to
present statistical position of cotton. World availabili
have risen by 30 per cent in the last five years, reach
a level of 11.1 million tons by the beginning of
1955/56 cotton year. Although demand increased
some 10 per cent during the period in question, wo
surpluses doubled and by 1 August 1955 they amoun
to 4.4 million tons. From 1951/52 to 1955/56 Uni
States surpluses increased from 490,000 to 2.4 mill
tons, which means that this country now holds 55
cent of world surpluses instead of only 25 per cent
before. (See table 41.) Among the factors contribut
to this situation were the legal provisions which
thorized exports only when they were effected at a le
not lower than 110 per cent of the support prices p
to planters. Thus United States policy favoured the dev
opment of cotton in Latin America by maintaining pri
at a relatively steady and profitable level.

Of late, however, United States policy has radica
altered, since the decision has now been reached to
surpluses at competitive prices and on the very easy ter
implied by acceptance of payment in the purchase
national currency and the additional incentive of lo
term credits. Under these conditions, the United Sta
has already sold 138,600 tons for delivery during 19
These sales are a source of direct competition for Bra
Central America and Mexico, especially as some of th
were placed in Latin American countries which w
traditional purchasers of the region's own cotton.

Table 41. World cotton situation[a]

(Thousands of tons)

Supplies	*1951/52*	*1952/53*	*1953/54*	*1954/55*	*1955/56*[b]
Stocks on 1 August					
United States	499	607	1,215	2,105	2,409
Other countries	1,823	2,279	2,148	1,975	1,996
	2,322	2,886	3,363	4,080	4,405
Production					
United States	3,277	3,298	3,559	2,951	3,168
Other countries	2,930	2,973	3,016	3,429	3,537
	6,207	6,271	6,575	6,380	6,705
TOTAL SUPPLIES	8.529	9,157	9,938	10,460	11,110
Distribution					
Consumption					
United States	1,996	2,062	1,866	1,910	...
Other countries	3,472	3,559	3,971	4,058	...
	5,468	5,621	5,837	5,968	...
Stocks					
United States	608	1,215	2,105	2,409	...
Other countries	2,279	2,148	1,975	1,996	...
	2,887	3,363	4,080	4,405	...
TOTAL DISTRIBUTION	8,355	8,984	9,917	10,373	...
Difference[c]	174	173	21	87	...

Source: International Consultative Committee on Cotton and BAE (USA).

[a] Excluding the U.S.S.R. and other Eastern European countries.

[b] Estimates.

[c] Including accidental losses and balances exported in trade with the U.S.S.R. and other Eastern European countries.

7. MEAT

Meat production in Latin America witnessed a marked overy in 1955 from the slightly declining trend ob- ved during the last five years. A 4 per cent increase r the 1954 output raised it, though by only a small rgin, above the peak level of 1950. This change was mainly to an increment of a little more than 7 per t in beef production; while in 1954 only 21.6 million d were slaughtered; in 1955 this figure rose to 23.1 lion principally as the result of the extraction of far greater numbers of cattle in Argentina and Mexico. Production of mutton remained practically stationary, since the 16.7 million head slaughtered represented only 176,000 more than in the previous year. Conversely, production of pork decreased by 8 per cent since slaughtering declined by some million head, so that the total was only 11.75 million. This reduction was almost entirely attributable to the sharp falling-off in the slaughtering of pigs in Brazil as a consequence of feed shortages. In the remaining countries, except Chile, production remained stationary or increased slightly. (See table 42.)

Table 42. Latin America: Meat production, 1950-55[a]

(Thousands of head)

	1950	1951	1952	1953	1954	1955
Cattle	23,180	22,961	22,265	21,584	21,599	23,106
Sheep	16,008	13,433	16,974	17,393	16,530	16,706
Pigs	11,618	11,950	12,286	12,633	12,772	11,756
Over-all index[b]	100	99	98	96	96	100

Source: Official statistics.

[a] Including exports of animals on the hoof.

[b] Weighted by average unit yields: cattle, 220 kilogrammes; sheep, 18 kilogrammes; pigs, 75 kilogrammes.

The salient feature of meat production in 1955 was doubtedly the remarkable increase in cattle slaughter- in Argentina, which enabled this country to make at progress in regaining its position as Latin America's ding exporter. Cattle stocks totally recovered from effects of the drought which had affected this country m 1948 to 1951, and in certain isolated sectors the rying capacity of pastures was even subjected to some ssure. Consequently, meat supplies for the domestic rket became normal, the weekly meatless day being lished in August, and, moreover, a considerable ex- table surplus was obtained. In 1955, 9.5 million head re slaughtered, that is, 16.8 per cent more than in previous year, when the corresponding figure was 3 million. Owing to the substantially higher proportion calves, cows and heifers in the aggregate number of tle butchered,[33] meat yields improved by only 13 per t, totalling 2.05 million tons. Finally, it should be licated that Argentina's meat production might have n still greater, had it not been for the marketing and, ecially, the transport difficulties that prevented the l utilization of the available supply. The inadequacy the transport system, in particular, caused manifold ses, since breeders were obliged to hold their stocks much longer periods than would have been required nply to fatten them for market.

The declining trend in beef production in Uruguay came more marked in 1955 as a result of the gradually ensifying competition in recent years, in the first place tween crops and livestock, and in the second place tween cattle and sheep, for the country's limited natural ources. As an example of the first case, mention should made of the considerable expansion of the area under eat, which in the last three years rose from 500,000 700,000 hectares, taking up most of the best grazing lands and particularly the winter pastures. In the second case it should be recalled that owing to the boom in wool prices on the world market, sheep breeding developed to an exceptional extent in Uruguay, so that in 1953-54 sheep stocks were estimated at about 27.5 million head as against 21.6 million in 1946-50 and 18 million during the pre-war period. Conversely, cattle stocks declined from 8.3 million in 1936/40 to 7.9 million in 1953/54. In addition to this unbalanced development of animal stocks, meat consumption, considerable to start with, became the highest in the world. Hence it is easy to understand why Uruguay discontinued its meat exports, which until 1954 contributed a high percentage of the country's aggregate foreign exchange income. The falling-off observed in cattle breeding is largely due to unfavourable marketing and processing conditions which not only hamper the regular delivery of animals for slaughter, but also increase costs.[34] The same circumstances have caused the formation of a "parallel" uncontrolled market both for supplying the city of Montevideo and for exports.

In Brazil, although the accelerated growth of cattle stocks seems to have continued—bringing them up to 61.4 million head in 1955 in comparison with 57.6 million in 1954 and an average of only 46.2 million in 1946-50[35]—production of beef remained stationary, perhaps as a consequence of the strict control of retail prices which was in force during most of the year and was later partially relaxed.

An extensive herd repopulation programme was launched in 1955 in Mexico, where until 1954 foot-and-

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[3] In 1954 cows and heifers accounted for only 28.2 per cent of regate slaughtering, while in 1955 this proportion rose to 33.6 cent. For calves, the corresponding percentages were 4.5 and per cent, respectively.

[34] The existence of cold storage houses with a processing capacity much higher than present production levels (the four cold storage houses of Montevideo can handle 1.7 million head, while only 522,000 were processed in 1955) gives rise to high operation costs which are partly financed through State subsidies and partly involve the payment of lower prices to the producers. Moreover, difficulties in delivering the cattle to the stockyards and delays in payment constitute a serious handicap for stock-breeders.

[35] See *Foreign Crops and Markets*, Vol. 72, No. 15, 9 April 1956.

mouth disease and prolonged droughts had prevented the expansion of stocks. The Government created the Fondo de Garantía y Fomento de la Ganadería with capital amounting to 100 million pesos, for the purpose of guaranteeing private credit institutions the recovery of their livestock loans. Two thousand stud bulls were imported from Canada; five national breeding stations were established; 20,000 head of Hereford cattle were distributed, and, with the credit and guarantees provided by the Nacional Financiera, the purchase of 100,000 heifers and 300,000 head of cattle for distribution among farmers was authorized. These measures, together with the opening of the United States border, which encouraged cattle exports, enabled slaughtering to increase by more than 18 per cent.

Finally, Costa Rica, which until 1953 was a net importer of cattle for consumption, became self-sufficient in 1955, thanks to better utilization of its good natural facilities for stockbreeding and to credit programmes and the distribution of zebu stud bulls. In 1955, slaughtering for domestic consumption increased and about 4,000 fat bullocks were exported to countries outside Central America. This raised extraction to a level 2.3 per cent higher than the previous year's and 37.6 per cent above that of 1950.

Production of meat in the remaining countries was normal in 1955.

Latin America's position as a meat exporter improved considerably during the year owing to the substantial increment in both meat and live-weight shipments from Argentina and Mexico.

The increase in cattle slaughtering in Argentina left an exportable surplus[36] of about 400,000 tons of carcase meat, which compares favourably with 231,000 tons in 1954 and an average of 284,000 over the five-year period 1950/54. It is also interesting to note the significant change in the composition of these exports, which were shipped mainly to the United Kingdom. When meat rationing ended in July 1954, the population of Britain began to demand increasing quantities of chilled beef instead of the frozen meat they had eaten for so many years. This unquestionably favoured Argentina, since Great Britain's other traditional suppliers—Australia and New Zealand—are too far away to export chilled beef to this market. Thus, while in 1953 and 1954 British imports of chilled meat were only 4,000 and 16,000 tons respectively, in 1955 Argentina exported about 120,000 tons to the United Kingdom.

The erradication of the foot-and-mouth epidemic which broke out in 1953 allowed Mexico to resume its exports of cattle on the hoof to the United States. Sales to this country rose to 243,000 head in 1955, as against only 4,600 in 1954 and 134,600 in 1953.

The decline in Uruguayan meat exports which began some years ago became so acute in 1955 that this country practically disappeared from the world market. In fact, from 61,200 tons in 1951 and 43,900 in 1954, exports of frozen meat dropped to 3,200 tons in 1955. Sales of tinned meat in the same years stood at 12,800, 20,900 and 5,600 tons, respectively.

8. Wool

Latin America's wool clip (greasy basis) reached volume of 315,400 tons during the season ending September 1955, which was 5 per cent below the le of the previous year and the lowest tonnage recorded the last five years.

If a comparison is drawn between wool production Latin America and that of the whole world, it may seen that the latter has shown a steady improvement recent years while regional output moved up slowly un 1954 and deteriorated thereafter. (See table 43.) Becau the rate of growth was uneven, Latin America's sha within the world total, which had reached 17.8 per ce in 1951/52, declined to 15.5 per cent in 1954/55.

Table 43. Latin America: Wool production

(Thousands of tons)[a]

Year	World aggregate	Latin America	Share of Lati America withi world total (Percentages
1950/51	1,822.0	323.9	17.7
1951/52	1,836.5	328.2	17.8
1952/53	1,980.5	331.6	16.7
1953/54	2,003.2	332.7	16.6
1954/55	2,030.3	315.4	15.5

Source: Official statistics.
[a] Greasy basis.

The fluctuations in the Argentine clip, which accoun for about 60 per cent of the regional aggregate, play decisive role in the slow evolution of wool producti in Latin America. After reaching peak levels of abo 200,000 tons from 1948 to 1950, the output of wo started to decline in Argentina, owing to adverse ec nomic conditions, which originated in the low expo exchange rate. Hence, in 1955 only 165,000 tons we produced, which is very similar to the clip in 1934/38.

Although production in Uruguay, which ranks secon among Latin American producers, declined slightly 1955 when related to the previous year, it remained at level of some 90,000 tons, or almost 80 per cent high than the pre-war level. This development was possib through the remarkable growth of sheep flocks, whic have partially displaced cattle from the limited pastu land in Uruguay,[37] to the serious detriment of meat pr duction both for domestic consumption and for export.

No significant changes took place during 1955 in th remaining countries, which contribute about 20 per ce of the regional aggregate. It should be noted, howeve that southern Brazil has witnessed a phenomenon simil to that of Uruguay, namely, a marked displacement cattle by sheep as a consequence of high wool prices the previous year and of the better utilization of gras lands by sheep.

The wool clip in Argentina and Uruguay is main destined for export, while elsewhere in Latin America is in general consumed by local industries. These tw ntries rank among the five major exporters of the ld, accompanied by Australia, New Zealand and the on of South Africa.

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[36] Exports were as follows: 117,300 tons of tinned meat; 158,100 tons of chilled and frozen beef; and 62,300 tons of frozen mutton.

[37] While the cattle population decreased from 8.3 million he in 1946-50 to 7.8 million in 1954, sheep flocks grew from 17.9 26.6 million head during the same period.

Vool exports represent a valuable source of foreign hange for Argentina and Uruguay. During the last years such exports have accounted for 14 and 43 cent, respectively, of the total income derived from orts in these two countries.

rgentina's exports, mainly consisting of coarse wool n crossbreeds, rose to 105,000 tons effective weight 954/55 (including waste), or 12,000 tons more than n the previous clip. (See table 44.)

Table 44. Argentina: Wool supplies, 1954/55

(Thousands of tons)[a]

Output	165
Carry-over	35
Total	200
Domestic consumption	50
Exports	105
Unsold stocks by 1 October	45

ource: *World Wool Digest*, 4 January 1956.

Greasy basis.

Export prospects for the surplus have benefited, how- r, from the new exchange measures which were estab- ed at the end of 1955 by the Argentine Government, uding a rise in the net exchange rate for wool from 5 to 12.42 Argentine pesos per dollar.[38]

The future of wool exports was also favoured by the ng trend in world consumption. In fact, while con- ption in the United States had declined steadily in ent years, mainly through the competition from thetic fibres, an increase of about 4 per cent occurred 1955, principally because a greater demand existed garment wool. A significant rise also took place in the United Kingdom, the world's main wool consumer, where consumption of greasy wool rose from 209,000 to 215,000 tons. In the aggregate, world consumption increased by approximately 3.5 per cent in relation to the previous year.

In marked contrast to Argentina, Uruguay's exports during the 1954/55 wool year declined by 28 per cent in relation to the previous clip and by 60 per cent when compared with 1952/53.

The United Kingdom and the United States, which were formerly the main purchasers of Uruguayan wool, reduced their imports from this source by two-thirds and one-half, respectively, while shipments to Western Germany dropped to less than 50 per cent of the previous year's tonnage. The Netherlands thus ranked as the main customer, by purchasing about 8,600 tons of wool and 6,500 tons of wool tops, which accounted for 25 and 60 per cent, respectively, of Uruguay's aggregate exports during the last clip. A significant event during the year was the export of about 200 tons of wool tops to the Soviet Union.

During the last quarter of 1955, that is, when the new wool year had opened, exports from Uruguay made a sensational recovery and the largest shipments on record were made. In the first six weeks of this new wool year, 30,000 tons of wool and 5,800 of wool tops were registered for export; during the last week of November, 3,000 tons were recorded and in the next two weeks registrations totalled 17,000 tons. This almost exhausted the unsold 52,000 tons held on 1 October. An important factor in this sudden expansion of sales may be that after 1 January 1956[39] the export subsidy (established on 15 September to stimulate such exports) was expected to drop from 21 to 14 dollar cents, to remain at a level of 7 cents as from 1 April, and to be eliminated after 1 July 1956.

Prices for wool on the world market, particularly for fine grades, continued to move down during 1955, a movement which became more marked in September when Merino wool was quoted at its lowest price in recent years. In October a slight recovery took place which continued throughout the last quarter of 1955 and early weeks of 1956.

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[38] According to the modifications introduced in the Argentine hange system, the wool dollar is liquidated at 18 Argentine s to the dollar, 25 per cent being retained, which gives a net e of 13.50 pesos to the dollar. At the same time a former 8 per tax on sales was reinstated so that the exchange rate is really ged at 12.42 pesos to the dollar.

[39] This limit was afterwards extended to 31 March.

Chapter IV

INDUSTRY

I. OVER-ALL TRENDS IN PRODUCTION

Latin America's industrial production continued to expand during 1955. The indices showed an increase of 6 per cent in relation to the previous year which, although higher than that recorded during the period 1950-54, revealed a certain weakening when compared with the 7 per cent registered in 1954. (See table 45.)

Table 45. Latin America: Indices of industrial production

(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
Latin America	107	109	113	121	128
Argentina	102	95	93	100	110
Brazil	110	116	121	134	139
Chile[a]	92	107	115	121	116
Colombia	106	118	137	139	142
Ecuador	103	110	116	126	134
Guatemala	99	104	102	102	105
Mexico	109	110	114	122	134
Venezuela	119	139	153	167	187

Source: Official statistics.

[a] On the basis of data from the Chilean Development Corporation.

Three factors in particular contributed to the growth of industrial output in 1955: (*a*) the improvement in demand, as a result of the increased volume of exports, which succeeded in overcoming the effects of the deterioration in the terms of trade and thus favourably influenced domestic demand; (*b*) the peak level reached by agricultural production, which is a highly important element in determining the income level of the majority of consumers in each country; and (*c*) the increment in investment, which is estimated at some 3.0 per cent in relation to 1954 for Latin America as a whole, and which had an encouraging effect upon the demand for industrial products.

The development of manufacturing output varied from one country to another, although in almost the whole region it rose above the previous year's level.

In Argentina, where a recovery from the former low levels of activity set in during 1954, production continued to increase progressively during 1955, showing increments of 10 per cent over 1954 and of more than 7 per cent above the figure for 1951, which had represented the previous maximum. This growth was not unconnected with the acute shortage of foreign exchange, which almost excluded the possibility of importing many manufactured articles, and with the increase of over 6 per cent in agricultural production, which raised the demand for such goods. But in 1955, as in other recent years, the growth of industrial equipment was slow. A persistent weakening in exports of primary products reduced the means required for a steady expansion of productive capacity, especially in the sector of basic industry, which has the greatest influence upon the dynamics of growth. Hence the increased output in 1954 and 1955 was less the result of an expansion of industry than of a more intensive utilization of installed capacity.

The rate of growth of production weakened in Brazil and from almost 10.8 per cent in 1954 fell to 3.7 per cent in 1955. The prospects of a reform of exchange policy, of changes in the customs tariff and of restrictions on credit all affected output during the final months of the year. But industrial capacity continued to expand, despite difficulties in obtaining foreign exchange and in importing equipment and raw materials. These very difficulties and the opportunity for high profits from productive activities, make Brazil an attractive field for industrial investment.

The over-all trends which had begun to appear in Mexico's manufacturing industry since the second quarter of 1954 remained unchanged. Industrial output maintained its progressive rate of increase throughout 1955, exceeding the levels of 1954 by almost 10 per cent. Much of this increment was due to the encouraging effect upon the demand for industrial products of the increase in private investment, which is estimated to have surpassed that of the previous year by about 40 per cent. The two consecutive years of substantially higher income in the agricultural sector constituted an additional favourable influence.

Industry in Colombia continued to grow, but at a slower pace than during the period 1950-54. National income did not show as spectacular a rate of increase as in recent years and this was reflected in a relative weakening in demand. On the other hand, imports of those consumer goods which compete with domestic industry expanded in relation to 1954, despite the modifications in foreign exchange policy which were adopted in order to reduce such purchases.

For the first time after a number of years of continued expansion, the volume of industrial production contracted in Chile, and was more than 4 per cent below the 1954 level. Credit restrictions enforced during the final months of the year led to a substantial reduction in sales and ultimately in production. In addition, serious difficulties still hampered imports of machinery and spare parts, raw materials and other elements essential for production, even though more foreign exchange was finally available than had been expected at the beginning of the year.

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[1] Machinery replacement has once again been postponed. It is estimated that the replacement of out-of-date equipment by modern machinery would alone represent an investment of more than 350 million dollars.

Industrial output was also lower in Uruguay. The mani- t difference between productive capacity and effective oduction—a characteristic apparent since the early ars of the present decade—became even more marked 1955. As regards supply, competition from imported icles made itself felt, while there was some weakening demand as a result of the higher cost of living. The pansion of many sectors of Uruguay's industry has ceeded the needs of the limited domestic market and ly through exports could full economic utilization of stalled equipment be achieved. But high labour costs, accompanied by a comparable level of productivity, clude any possibility of competition on world markets, less preferential exchange rates are adopted, as in the ses of tanned hides or combed wool tops.

Although protection is limited in Peru, industry de- loped to some extent during 1955. Nevertheless, prob- ms arising from the policy of a free exchange rate d unrestricted rate have still to be faced. The meas- es adopted in November 1949 represented a decrease the purchasing power of most of the population and us reduced the market available for industry. More- er, the higher-income groups, who might strengthen e demand for domestic goods, prefer the foreign market, d this is one of the reasons why Peruvian industry s not grown more rapidly during the last few years.

Venezuela was the country with the highest rate of owth for industrial production during 1955. The in- nsive process of industrialization which began in 1950 d not slacken during 1955; the expansion of plants ready installed and the creation of new industries con- nued unabated.

. OUTSTANDING EVENTS IN LATIN AMERICA'S INDUSTRY

Although a number of projects and plans were adopted r entered production, those listed below are considered s the most important; it should be noted that they are ll in the sector of heavy industry, which indicates that some countries the distance which separates basic rom light industry is being narrowed:

(*a*) The agreement between the Argentine Government nd entrepreneurs and a United States company for the uilding of a factory at Córdoba to produce motor vehi- les. Output will apparently reach 35,000 units annually ver the next four years and will contribute to the renewal nd expansion of the motor transport park in Argentina.

(*b*) The establishment of the new plant of the Com- anhia Brasileira do Aluminio in the State of São Paulo. nitial capacity is for 10,000 tons of aluminium ingot nnually, and there are plans for a fivefold increase. Output from this plant will provide Brazilian industry with more abundant supplies of this metal, which is basic or the mechanical and metallurgical sector, and which as hitherto been in short supply owing to import difficulties.

(*c*) The entry into production of the refinery at Cubatao, in São Paulo State, with a daily capacity of 0,300 cubic metres. In addition to the significance of his plant for the supply of fuels, it will shortly become the centre of a large petro-chemical industry which will use the residual gases from the refinery as raw material.

(*d*) The mass production, in São Paulo, of the first diesel engines to be manufactured entirely in Brazil. Although the units produced each month are still few in number, and, furthermore, are single-cylinder models of low horse-power, this is an outstanding event because it indicates the stage of progress reached by Brazil's mechanical industry.

(*e*) The contract between Chilean capital and a United States company for the manufacture of agricultural tools and equipment. The machinery has already been purchased and the civil-engineering work for the assembly of the plant is at present being concluded. This is a basic industry for Chile, because the articles to be produced—threshers, harvesters, etc.—will play a decisive part in the success of the agricultural programme now under way. In addition, from the metallurgical standpoint, Chile will now begin to mass-produce machines of a high technical level.

(*f*) The installation in El Salvador, directed by Japanese experts and with a joint capital from El Salvador and Japan, of an up-to-date cotton mill which will have 25,000 spindles and 260 looms.

(*g*) The increase in the steel-making capacity of Mexico. The production of more than a million tons annually represents an increment of 108 per cent above the 527,000 tons' capacity registered in 1950. The 15.8 per cent annual coefficient of increase is indeed exceptional, and denotes the lines along which Mexico's industry developed during this period.

(*h*) The inauguration in early 1955 of the first battery of coking plants at Monclova in Mexico which, in addition, to producing some 286,000 tons of metallurgical coke each year, has an annual capacity for 6,600 tons of sulphuric acid, 3,477 of ammonia sulphate, 2,877 of tar products and 12,371 tons of liquid pitch.

(*i*) The entry into operation of the two works manufacturing railway wagons and diesel engines in Mexico. The former will have an output of 1,200 wagons annually. In addition, a factory for textile-mill machinery is being built, with a capacity for 120,000 spindles and 3,600 looms each year, which will enter production at the end of 1956.

(*j*) The agreement between an Italian company and capital from Colombia, Peru and Venezuela, to set up a petro-chemical industry in each of these countries. The first objective will be to produce nitrogenous fertilizers (ammonium nitrate, calcium nitrate and urea).

(*k*) The formation of a company in Peru, with the technical and financial assistance of a Belgian corporation, for the production of explosives, partially on the basis of raw materials to be provided by the petrochemical industry.

(*l*) The opening at the beginning of the year of a furfural plant in the Dominican Republic, consuming sugar-cane bagasse as its raw material and with an annual capacity of 9,000 tons which will all be exported to the United States.

(*m*) The agreement between domestic capital and an Italian company to build a large iron and steel works, at

Puerto Ordaz in Venezuela, with an annual capacity of 150,000 tons of steel ingot. Since Venezuela has the highest per capita steel consumption in Latin America,[2] the new plant will lead to less dependence upon imports and will give a strong impulse to the development of the mechanical and metallurgical industry.

III. DEVELOPMENT BY SECTORS

The sectors included here represent over 87 per cent of the value of Latin America's industrial output. Their relative importance may be judged from table 46; the rates of growth recorded during the period 1950-55 are shown in figure IX.

Table 46. Latin America: Share of the value of industrial production by sectors

(Percentages)

Foodstuffs and beverages	32
Tobacco products	2
Textiles	16
Footwear and clothing	7
Pulp and paper	2
Chemical and pharmaceutical products	6
Rubber manufactures	2
Cement, glass and ceramic products	4
Metallurgical and mechanical industries	15
Other industries	14
	100

Source: Figures based on the latest censuses and industrial statistics of the ten Latin American countries with the largest volume of industrial production.

1. Foodstuffs and beverages

This is the most important sector in every country of the region; at the same time it is the most heterogeneous, since it is really composed of a number of dissimilar industries. On the average, foodstuffs account for nearly 75 per cent of the value of production and beverages for about 25 per cent. Particularly significant among the former are mill products, sugar, green coffee, refrigerated meat, rice (cleaning and polishing), preserved foods, edible oils and fats, bakery and confectionery products, and prepared foods. Among the beverages, the more important are liquors, wine, beer and soft drinks.

Except for Argentina, where this sector was affected by the agricultural crisis of 1951-52, and probably Cuba, where sugar production has ben declining sharply since 1952, the food-processing and beverage industries have expanded considerably in all countries. This development was particularly pronounced in Peru and Venezuela, where official policy made special efforts to foster it. (See table 47.)

A new increase in production within the region was apparent in 1955; for the seven countries shown in table 47 it represented an increment of 5 per cent. Commodities showing higher output in relation to 1954 included wheat flour (18 per cent), coffee (7 per cent) and vegetable oils (4.5 per cent). In the case of sugar there was a reduction (3 per cent) because of lower production in Argentina, Cuba and the Dominican Republic.

Figure IX

LATIN AMERICA: GROWTH OF INDUSTRY AN SOME OF ITS MAIN SECTORS, 1950-55

(1950 = 100)

Semi-logarithmic scale

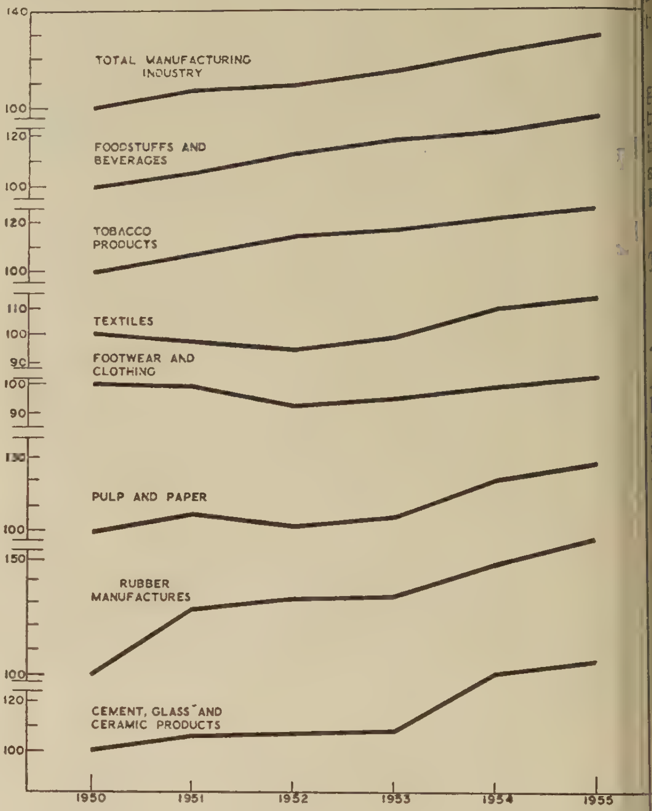

Table 47. Latin America: Production indices fo foodstuffs and beverages

(1950 = 100)

	1951	1952	1953	1954	1955
Latin America	105	112	118	120	126
Argentina	96	99	104	105	103
Brazil	110	118	126	121	131[b]
Chile	103	112	126	130	126
Colombia	108	118	125	...	...
Mexico	116	111	112	117	127
Peru	102	116	134	166	...
Venezuela	113	129	137	149	171

Source: Official published statistics.
[a] Seven months.
[b] Eight months.
[c] Ten months.
[d] Six months.

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[2] It should be noted that this high consumption does not reflect the existence of a large metallurgical and mechanical industry, but rather the high demand for petroleum tubing and structural steel for building.

2. TOBACCO PRODUCTS

ith a few notable exceptions, such as Cuba, this is of the most concentrated industries and, mainly be- e of monopolies, there are very few establishments ach country. As a rule, the factories are large and close to centres of production or consumption,[3] ough there are also establishments which prepare icco by hand for smoking or chewing.

xcept in Brazil and Venezuela, this industry has wn at a somewhat slow rate in recent years. However, expansion in Brazil, which is the largest producer he region, has influenced the figures for Latin America whole, which rose by 25 per cent between 1950 and 5. (See table 48.)

ble 48. Latin America: Production indices for tobacco products

(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
n America	107	114	116	121	125
entina	103	110	109	104	106
zil	117	129	134	154	167
le	93	101	104	106	106
ombia	114	110	112	121	109
kico	110	109	107	113	...
iezuela	106	127	138	162	174

ource: Published statistics and data.

Table 49 gives production figures for cigars and arettes in selected Latin American countries.

Table 49. Latin America: Output of tobacco products, 1954

(Millions of units)

ntry	*Cigars*	*Cigarettes*
gentina	...	19,360
livia[a]	...	600
azil[b]	248.0	27,197
ile[c]	1.2	5,598
lombia	514.0	12,925
ba	316.0	9,357
minican Republic	32.7	892
uador	8.7	733
Salvador	...	751
atemala	...	1,673
iti	...	1,550
exico	29.5	27,797
caragua	...	724
raguay[a]	...	528
ru	1.2	2,608
uguay[d]	7.4	1,920
nezuela[d]	68.0	3,320

Source: United Nations Statistical Yearbook 1955, and direct ormation.

[a] 1953.

[b] 1944. Although absolute recent figures are lacking, it is known at Brazil is the largest producer in the region.

[c] 1955.

[d] 1952.

3. TEXTILES

As regards the value of production, the capital invested and the man-power employed, the textile industry still ranks second among Latin America's manufacturing activities; yet in the last six years, it has not followed the same dynamic pattern of growth as the other sectors. During the period 1950-55, the volume of production in the manufacturing industry as a whole increased at a rate of 5 per cent annually, while the textile industry expanded by only 2.5 per cent. (See table 50.) This failure to advance as rapidly as other branches of industry had two fundamental causes: (*a*) already by 1950 production and domestic demand were reaching a certain equilibrium in the main producer countries and only moderate future increases could thus be expected, based on a higher average of *per capita* income and on the vegetative increment in the population; and (*b*) the pressure of external incentives was weakened by the loss of export markets which had, during the 'forties, maintained a state of unusual prosperity in the cotton sector of some countries.[4]

Table 50. Latin America: Production indices for textiles

(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
Latin America	98	95	99	109	113
Argentina	99	81	81	86	89
Brazil	96	102	107	126	132
Chile	99	106	114	120	120
Colombia	92	103	115	...	...
Ecuador	121	127	141	140	...
Mexico	97	93	89	99	107
Peru	88	102	115	122	...
Uruguay	120	110	146	130	...
Venezuela	141	167	182	204	227

Source: Official statistics and publications.

In 1955, Latin American textile output exceeded the figure for the previous year by 4 per cent; and, although the rate of growth was more hesitant than in 1954, the level of activity may be taken as satisfactory, considering that the latter year was the first of complete recovery. The most active branch in almost all countries was cotton, as consumers showed a preference for cotton goods. Conversely, there was some slackening in the demand for artificial fibres; this was particularly true of piece goods made of filament, since articles made of staple continued to enjoy a good market, thanks to the popularity of fibre mixtures.

Modernization of equipment proceeded very slowly; nor was there any large-scale expansion in most countries, precisely because nearly all of them found it difficult to import equipment. Consequently no significant changes may be expected in the number of spindles or looms. (See table 51.)

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[3] All the Latin American countries, from Mexico to Argentina, ow sufficient tobacco to meet at least their own needs. Some ecialize in tobacco for export.

[4] During the war and early post-war years, Brazil and Mexico supplied markets which had previously imported from traditional exporters. When the situation returned to normal, these markets were gradually lost, and Latin American products were able to enter them only as stop-gaps, covering temporary deficiencies in supplies from so-called traditional sources.

Table 51. Latin America: Capacity of the textile industry, 1954

	Spindles		*Looms*		
Country	*Cotton*	*Wool*	*Cotton*	*Wool*	*Artificial fibres*
Argentina[a]	860,811	470,000	21,132	9,000	7,500
Bolivia	21,000	...	780	...	...
Brazil	3,480,000	252,000	130,000	7,100	27,000
Chile	196,253	96,974	5,136	1,500	3,500
Colombia	386,000	7,614	7,077	894	2,270
Cuba	71,536	...	2,478	...	...
Ecuador	85,000	4,102	1,636	91	376
El Salvador	46,640	...	1,230	...	...
Mexico[a]	1,136,203	130,000	37,501	2,100	9,952
Paraguay	28,000	...	530	...	...
Peru	207,000	63,000	6,356	950	1,020
Uruguay	115,958	95,000	2,100	770	812
Venezuela	84,087	...	3,684	...	...

Sources: Ministerio de Comercio de la Nación Argentina, Dirección de Algodón y otros Textiles; Sindicato de Fiacao e Tecelagem em Geral, São Paulo, Brazil; Ministerio de Economía de Chile; Asociación de Industriales Textiles del Uruguay; Ministerio de Fomento y Obras Públicas del Perú, Dirección de Industrias y Electricidad; and *United Nations Statistical Yearbook, 1955.*

[a] Statistics for 1952, the last year for which such information is available.

4. FOOTWEAR AND CLOTHING

This sector registers a slow rate of growth, although future prospects are good, particularly in those countries where per capita consumption is still extremely low. Expansion will depend less on the vegetative growth of the population than on the raising of the average standard of living in Latin America. Artisan shops predominate in this sector, so that mechanization and productivty indices are low.[5]

From 1950 to 1955, the production index showed no significant changes in the principal Latin American countries as a whole, although (see table 52) there were variations in the output of nearly all of them from one year to another. The majority witnessed some degree of recovery in 1955.[6]

Table 52. Latin America: Production indices for footwear and clothing

(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
Latin America	99	93	95	98	101
Argentina	97	86	87	90	91
Brazil[a]	121	111	114	109	117
Chile	97	101	110	113	111
Colombia	92	104	114	...	...
Mexico[a]	89	92	83	82	82
Peru	77	90	106	106	...
Venezuela[a]	75	92	98	...	...

Source: Published data and statistics.

[a] Footwear only.

Footwear manufacture represents from 25 to 75 per cent of the entire sector. The percentage is usually lower in the more advanced countries of the region—Argentina, for instance—because factory-made clothing is more commonly worn there by both the higher and the lower income groups.

Since imports of footwear are very small in nearly all the countries and domestic production therefore meets almost the entire demand, it may be concluded that the consumption of footwear is abnormally low in Latin America. In fact, in only four countries—Argentina, Chile, Cuba and Uruguay—does it exceed one pair of shoes or boots per person annually. (See table 53.) These figures contrast with 3.2 pairs in the United States and 2.7 in the United Kingdom.

Table 53. Latin America: Leather footwear production

	Total (Thousands of pairs)	*Per capita (Pairs)*
Latin America	121,503	0.76
Argentina[a]	25,400	1.36
Brazil[b]	50,000	0.88
Chile[b]	12,000	1.86
Colombia[a]	3,633	0.29
Cuba[c]	12,160	1.98
Dominican Republic[a]	608	0.26
Ecuador	323	0.09
El Salvador[a]	153[d]	0.07
Honduras[e]	47	0.03
Mexico[a]	13,000	0.45
Peru[b]	3,000	0.32
Uruguay[a]	2,815	1.10
Venezuela[b]	2,550	0.45

Source: United Nations Statistical Yearbook, 1955 and direct information from Argentina, Brazil, Mexico, Peru, Uruguay and Venezuela.

[a] 1954.

[b] 1955.

[c] 1950.

[d] Includes footwear made of other materials.

[e] 1951.

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[5] Furthermore, the equipment in use at many of the larger factories is out of date, and this also affects productivity and quality.

[6] There were countries where production contracted, Uruguay being a case in point. Footwear factories reduced the volume of output by 15 per cent in relation to 1954, a year in which it had already been low in relation to effective productive capacity. Most of the factories worked 3 or 4 days a week, utilization of equipment barely amounting to 30 per cent.

he manufacture of footwear is one of the branches re least progress in quality has been made. This is only because skill and adequate equipment are lack- but also because the quality of the leather tends to poor. There is a broad field for improvement and technical assistance in this industry, extending from care of livestock to ensure that hides are not blem- d by marks or diseases, to tanning operations and manufacture of more durable and less expensive es.

5. PULP AND PAPER

A glance at indices of production, for the five coun- s which together produce nearly all Latin America's p and almost 90 per cent of its paper, shows that an rage annual increase of 5 per cent was achieved in sector during 1950-55. (See table 54.) Nevertheless, greater output was insufficient to meet the ever- wing demand for pulp products, particularly that for mical pulp and newsprint. Of a total of 1.7 million s of paper and board consumed annually in Latin nerica, about one million are produced within the ion, leaving a deficit—mostly newsprint—of 750,000 s; in other words, 43 per cent of all consumption must covered by imports. In the case of pulp, almost 60 per t of aggregate consumption requirements is at present ported.

ble 54. Latin America: Production indices for pulp and paper
(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
tin America	107	102	105	119	127
gentina	109	94	84	108	123
azil	105	105	117	121	120
ile	104	108	117	129	129
exico	107	113	121	133	155
ru	99	98	154	128	...

Source: Published data and statistics.

This dependence upon imports has made it very difficult to meet demand, partly because of the sharp varia- ons in world prices and available stocks, and partly ecause of the shortage of foreign exchange which as a eneral rule has obliged the Latin American countries to mit their imports. Hence the region's paper consump- on advances more slowly than would be consistent with e rate of growth of per capita income.

An analysis of the present position of the exporting ountries—mainly in North America and Europe—leads o the conclusion that Latin America will not be able to eet the steady expansion of demand through increased mports from traditional suppliers.[7] As a result, certain atin American countries have begun to formulate long- ange plans for developing their own resources. Some are nvisaging production on a national scale only, with a iew to meeting their own requirements; in contrast, thers—better endowed with fibrous raw materials—are ontemplating export possibilities as well.

Until 1954 the trend in the region's manufacture of pulp products had been characterized by greater expansion in paper than in pulp. However, a change could be noted during 1955, when paper manufacture rose by 8 per cent as against a 10 per cent increase in pulp production. (See table 55.) A number of circumstances were responsible, among which the following are important: (*a*) many Latin American countries have become almost self-sufficient for grades of paper other than newsprint; (*b*) the retarded development of regional production of pulp—as well as the difficulties of importing it—has concentrated the attention of industrialists and Governments on the creation of domestic sources for this raw material; and (*c*) progress in the production of the really scarce commodity—newsprint—has been discouraged by preferential customs tariffs, small margins of profit and, above all, the need for exceptionally heavy investment.

Of the various existing projects for raising pulp and paper production capacity, four will be put into execution during 1956. A new mill will enter production at Puerto Piray in Argentina with a nominal annual capacity of 30,000 tons of pulp for paper and rayon; it is not expected to reach full capacity until 1957 or 1958.

In Brazil the Rio Claro mill will enter production with a capacity of 15,000 tons of bleached pulp for paper and 10,000 tons of pulp for rayon. Eucalypt will be employed as raw material.

Of the two mills which are under construction in Chile in the Concepción area, the newsprint factory—with an annual capacity of 44,000 tons—will begin operations towards the close of 1956, while the second will do so within another year or two, and, according to projects, will produce 47,000 tons of pulp and 10,500 of Kraft. The newsprint mill will not only meet domestic demand, but will provide an exportable surplus.

By the end of 1955 the new plant at Chihuahua in Mexico was approaching completion. It will produce some 24,000 tons of bleached pulp annually, and the same quantity of alpha-cellulose for the manufacture of artificial fibres, cellophane, and extra strong cords for inner-tubes. This will raise the country's total pulp production capacity to some 100,000 tons, which will mean that the entire domestic demand for pulp can shortly be satisfied. Projects for the establishment of newsprint mills to replace imports have also reached an advanced stage.[8] One of these plants, located in Uruapan, will have an annual capacity of 40,000 tons; the other at Tuxtepec, will produce 32,000 tons yearly.

The principal pulp and paper mill in Peru is installing new machinery which will enable it to expand its present capacity—20,000 tons of paper annually—by 50 per cent. This larger output will be achieved by means of a new procedure thanks to which the cooking time for sugar-cane bagasse can be considerably reduced.

The above undertakings account for 22 per cent of the region's current newsprint consumption and 18 per cent of its requirements of other grades of paper and board. These percentages are calculated by comparing output prospects with the figures for consumption. (See table 56.)

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[7] See *Pulp and Paper Prospects in Latin America* (E/CN.12/ 61/Rev.1), United Nations publication, Sales No.: 1955.II.G.4.

[8] Mexico's imports of newsprint amounted to 45,857 tons in 1955.

Table 55. Latin America: Production of pulp, paper and board

(Tons)

	Mechanical pulp	*Chemical pulp*	*News-print*	*Other paper*	*Paper board*	*Total paper and board*
			1954			
Latin America	68,661	169,507	57,782	613,135[a]	178,701[a]	874,418
Argentina	12,976	39,717	18,466	160,248	67,340	246,054
Brazil	11,500[b]	52,000[c]	26,961	254,325	33,162	314,448
Chile	18,652	3,369	12,355	37,265	2,368	51,988
Mexico	25,533	59,121	—	146,500	65,600	212,100
Peru	—	12,000[d]	—	14,797	10,231	25,028
Uruguay	—	3,300	—	—	—	24,800
			1955			
Latin America	71,845	187,909	55,962	668,153[a]	190,771[a]	941,386
Argentina[e]	17,000	40,700	18,500	170,000	75,000	263,500
Brazil	11,000[b]	62,000[c]	26,000	269,000	35,000	330,000
Chile	17,845	2,207	11,462	40,501	1,653	53,616
Mexico	26,000[d]	67,102	—	171,698	69,733	241,431
Peru	—	12,600[d]	—	16,954	9,385	26,339
Uruguay	—	3,300	—	—	—	26,500

Sources: Statistical Yearbook, 1955. Argentina: Asociación de Fabricantes de Papel de Argentina; Brazil: Sindicata da Industria de Papel; Chile, Mexico, Peru and Uruguay; direct information from the producing companies.

[a] Excluding Uruguay.

[b] Figures for 19 enterprises.

[c] Figures for 13 of the 14 enterprises in the country.

[d] Estimate.

[e] Seven to ten months' estimates.

Table 56. Latin America: Paper and board consumption, 1954-55

(Thousands of tons)

			Paper and board consumption	
	Newsprint	*Other paper and board*	*Total*	*Per capita (kgs)*
Argentina	71	225	296	15.8
Brazil	167	302	469	8.2
Chile	22	40	62	9.6
Mexico	61	239	300	10.4
Peru	12	30	42	4.6
Uruguay	22	29	51	20.4
Other countries	92	189	281	5.9
LATIN AMERICA, Total 1954	447	1,054	1,501	8.8
LATIN AMERICA, Total 1955	527	1,184	1,711	9.8

Source: Newsprint Association of Canada, *Newsprint Data*, Montreal, Canada, November 1955. Published statistics, direct information and foreign trade Yearbooks.

6. CHEMICAL AND PHARMACEUTICAL PRODUCTS

The primary chemical industry in Latin America has not developed at the same rate as other sectors. The main obstacle to its progress has probably been the reduced size of domestic markets, which, since current levels of consumption are low, fail to justify the manufacture of a number of its products. Moreover, certain features of the chemical industry, which are less pronounced in the case of other sectors, in the last resort necessitate substantial capital resources. Among such features are the following: (*a*) the high investment required for the plants; (*b*) the need to devote funds to research, generally to a greater extent than is required by any other industry; (*c*) the rapidity with which products and their methods of manufacture change; and (*d*) the relatively large percentage of out-of-date equipment which calls for constant modification or renewal.

In its present form, most of Latin America's chemical industry produces articles for direct consumption: pharmaceutical products, paint, soap, matches, etc. A fairly high level of self-sufficiency has been attained for these items and the saturation point is even being approached in some branches.[9] As a result, the small increments in production are mainly the result of vegetative increases in demand. The industry for raw materials and intermediate products, which should play a basic role in the growth of this sector, is of very little significance as yet.

Many contrasts were to be observed in the sphere of chemicals during 1955. On the one hand, production showed a certain stagnation[10] and, on the other, major projects were prepared and in many cases carried out. Of particular interest is Brazilian investment in plastics—polystyrene, phenolic and vinylic resins—a sector where output is expected to reach 37,000 tons in 1957-58. Petrochemicals constitute another basic industry whose installation was agreed upon, begun or continued in several countries. Brazil, Colombia, Peru and Venezuela will shortly have synthetic ammonia plants, with a combined acity of 300 tons daily. They will use natural gas the gases obtained from petroleum refining. Almost their output will be used to produce nitrogenous ilizers. Latin America's present production of these thetic fertilizers will thus be increased sixfold.[11] Even ugh Chilean exports to the above countries amount y to some 90,000 tons, these forecasts once again firm that the fundamental problem of natural nitrate one of prices rather than markets; they explain the iculties of the nitrate industry in face of the competi- n from synthetic fertilizers.

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[9] In Brazil, for instance, penicillin production far exceeded demand; strenuous competition among the manufacturers began in 1955, and, to prevent it from intensifying, they agreed to reduce output until such time as they could transform some of their equipment for the production of other antibiotics, particularly streptomycin. Hence in 1955 there was a reduction of almost 10 per cent in Brazil's pharmaceutical output.

[10] In point of fact the 1955 indices show a decline in chemical production. But as the sample on which they were based in each country was small, they have been excluded here as non-representative of the sector. Mexico and Venezuela did not follow the general trend and showed substantial increases.

It is unnecessary to emphasize the importance of these w installations for higher agricultural productivity, ce, despite the increase recorded in the use of nitro- ous fertilizers over the last few years,[12] the average nsumption figure per hectare for the region (1.7 ogrammes in 1954) falls far short of crop needs and much lower than in highly-developed countries.

Apart from fertilizer production, these plants will place eir surpluses of ammonia and nitric acid on the market d this will serve as an incentive to the creation of her industries. A Peruvian enterprise, for instance, th the technical and financial assistance of French pital, is to manufacture explosives.

Expansions also took place in the field of other in- ganic chemicals, particularly in alkalis[13] and sulphuric id. Statistics for total output in 1955 are given in ble 57.

able 57. Latin America: Production of fertilizers, sulphuric acid and caustic soda, 1955

(Tons)

untry	*Nitrogeneous fertilizers* [a]	*Phosphatic fertilizers* [b]	*Sulphuric acid*	*Caustic soda*
rgentina	...	5,000	100,000	21,600
razil	1,000	17,000	121,000	...[c]
hile	250,900	16,000	27,000	4,000
olombia	...	300	10,000	11,500
uba	...	9,600	49,000	—
exico	13,556	14,600	124,306	21,363
eru	41,500[d]	27,700[d]	14,763	1,330
ruguay	...	4,700	8,300	...

Source: Official statistics and direct information from producers.

[a] Expressed in tons of nitrogen.

[b] Expressed in tons of phosphoric acid.

[c] Figures are excluded because the information received is contradictory. Production capacity is estimated at 30,000 tons annually.

[d] Guano.

7. RUBBER MANUFACTURES

By contrast with the chemical industry, the manufacture of rubber articles is among the activities where growth has been most marked during the last few years. Between 1950 and 1955 the index for seven Latin American countries, representing together over 90 per cent of this sector's output in the region, showed an average annual increment of 10.5 per cent, a rate of growth only comparable to that of the steel industry. Although the upswing was apparent in all the countries, it was especially spectacular in Venezuela, where the exceptional average annual rate of 31 per cent was recorded for these years. (See table 58.)

Table 58. Latin America: Production indices for rubber manufactures

(1950 = 100)

	1951	*1952*	*1953*	*1954*	*1955*
Latin America	126	131	132	149	164
Argentina	143	147	121	150	172
Brazil	114	123	139	138	153
Chile	95	148	128	171	131
Colombia	95	130	169	...	...
Mexico	127	118	115	130	141
Peru	125	143	148	148	...
Venezuela	125	153	214	360	379

Source: Published data and statistics.

When the expansion of rubber manufactures is analysed, a distinction must be drawn between the so-called "heavy rubber industry", comprising tyre production, and the "light rubber industry", which includes all other manufactures. Tyre output made the major contribution to the increment recorded for the whole sector; production of other rubber goods, although it increased, developed at a much slower rate, perhaps because of competition from plastics, which are replacing some rubber articles.

Some 5.5 million tyres (see table 59) were manufactured in 1955, that is, 8 per cent more than in the pre-

Table 59. Latin America: Production of tyres and inner-tubes for motor vehicles

(Thousands of units)

	1954		*1953*	
	Tyres	*Inner-tubes*	*Tyres*	*Inner-tubes*
Latin America	5,102	2,569[a]	5,504	2,357[a]
Argentina	969	...	1,170	...
Brazil	2,054	1,274	2,173	1,195
Chile	191	169	146	134
Colombia	315	...	313	...
Cuba	102	46	101	47
Mexico	823	572	893	510
Peru	137	101	139	98
Uruguay	139	63	149	68
Venezuela	372	344	420[b]	305[b]

Source: Argentina: Asociación de Fabricantes de Productos de Caucho; Brazil: Comissão Executiva de Defesa da Borracha; Mexico: Dirección General de Estadística; Venezuela: Dirección General de Estadística; Colombia, Chile, Peru and Uruguay: information given by producers.

[a] Excluding Argentina and Colombia.

[b] Estimate based on data for 11 months.

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[11] Aggregate output will represent the equivalent of 600,000 tons of natural nitrate.

[12] See table 79 in the *Economic Survey of Latin America, 1954*, *op. cit.*, where consumption figures should be in kilogrammes per 100 hectares and not per hectare as indicated there.

[13] Of particular importance is the expansion being carried out by the *Planta Colombiana de Soda*, which, after four years of operation, has been obliged to increase output by 50 per cent to meet the growing demand for soda ash.

vious year. This greater output was obtained almost entirely through improved utilization of productive capacity, since the new factory in Venezuela entered operation only at the end of 1955, and other expansions carried out during the year will not be reflected in production until 1956.[14]

8. CEMENT, GLASS AND CERAMIC PRODUCTS

This sector includes the production of cement, glass, ceramics, bricks, tiles and other items made of clay; most of them are connected with building activities. Because these are basic materials for development, with a large volume per unit of price and relatively easy to manufacture, this sector has depended relatively little upon imports. The indices thus show a fairly sharp rise in recent years, although the extraordinary rate achieved in 1954 appears to have abated somewhat in 1955. (See table 60.) The decline was caused by reduced building activity in Brazil, Chile and Uruguay, and the fact that cement output in Venezuela—the largest branch within the sector in that country—remained constant in relation to 1954, since the rapid expansion of the past five years led the supply in 1955 to exceed the demand. In Argentina, Mexico and, in particular, Peru, production moved upwards, in the last case because of intensive building activity.

Cement and glass are both outstanding branches within the sector; together they represent from 40 to 70 per cent of the total, depending on the country concerned.

Table 60. Latin America: Production indices f
cement, glass and ceramic products
(1950 = 100)

	1951	*1952*	*1953*	*1954*	*19*
Latin America	106	107	117	131	13
Argentina	98	89	86	93	10
Brazil	115	123	147	156	15
Chile	110	120	113	114	10
Colombia	94	111	129	...	..
Mexico[d]	115	111	123	131	15
Peru	145	180	223	275	..
Uruguay[e]	100	95	97	97	9
Venezuela	113	141	162	242	24

Source: Published statistics and data.
[a] Seven months.
[b] Eight months.
[c] Ten months.
[d] Cement and glass only.
[e] Cement only.

The cement industry continued to grow. Production exceeded 11.6 million tons, which represented an increment of 10.7 per cent in relation to 1954. (See table 61 Except Uruguay and Venezuela, where very slight i creases took place, and in Paraguay, where the level the preceding year was maintained, all the other cou tries raised their output in 1955, ranging from 3 per ce in Chile to 54 per cent in Ecuador.

In Brazil, which is the largest producer in Latin Ame ica, the cement industry expanded rapidly.[15] Output ro by 9 per cent above the 1954 level and, although a ce tain equilibrium with demand became apparent durin

Table 61. Latin America: Production and consumption of cement
(Thousands of tons)

	1954 a			*1955*		
		Consumption			*Consumption*	
	Production	*Total*	*Per capita (kg)*	*Production*	*Total*	*Per capita (kg)*
Latin America	10,522	11,610	73	11,645	12,664	79
Argentina	1,671	1,944	104	1,823	2,042	107
Bolivia	33	37	12	37	39	12
Brazil	2,419	2,756	48	2,630	2,970	51
Central America and Panama	221	314	32	244	361	36
Chile	775	777	121	801	801	118
Colombia	962	956	77	1,047	1,034	82
Cuba	420	603	99	489	691	108
Dominican Republic	160	160	68	234	234	97
Ecuador	95	113	32	146	162	44
Haiti	—	28	8	25	36	10
Mexico	1,766	1,768	61	2,086	2,037	69
Paraguay	7	11	7	7	11	7
Peru	485	515	56	546	576	61
Uruguay	295	387	151	296	412	159
Venezuela	1,213	1,241	221	1,234	1,258	218

Sources: Official statistics, direct information and data published by the Portland Cement Manufacturers Association of Argentina.

[a] The figures for 1954 have been revised and replace those published in table 74 of the *Economic Survey of Latin America, 1954,* op. cit.

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[14] In 1955, Argentina bought more equipment in order to produce tyres for tractors, while Chile began to install new machinery which will provide a 20 per cent increase in present output.

[15] The Brazilian cement industry included 18 factories in 195 distributed over 10 states; they employed over 9,000 persons, i cluding office staff, and had 36 kilns in production and 6 unde construction or planned. Another 6 plants were being erected, wit 8 kilns in all, which should enter production in 1956. Capacity which stood at 3.03 million tons in 1954, appears to have reache 4.49 millions in 1955.

last months of the year, this industry is still felt to vide an interesting field for fresh investment. Mexico solidated its position as the second Latin American ducer, leaving Argentina, which had followed it sely until 1954, well behind. Although the volume of duction rose by 18 per cent, some disparity still sted in Mexico between productive capacity and effec- output; in 1955 output represented 79 per cent of acity. In Argentina, the production increment stood 9 per cent, and, although 219,000 tons was imported 1955, it is thought that no shipments from abroad l be required in 1956. In Colombia and Peru the reases amounted to 8 and 13 per cent respectively. By trast, Venezuela's production, which had almost bled between 1950 and 1954, remained in 1955 at ctically the same levels as the previous year, because pply entirely covered demand.

Latin America's cement consumption in 1955 was esti- ted at 12.8 million tons, or some 73 kilogrammes *per ita.* This figure is small when compared with 400 kilo- ammes in the Benelux countries, 344 in Western Ger- ny and 229 in the United Kingdom. It indicates that, spite the considerable growth in recent years, there is ll a very broad margin for expansion in this industry.

The glass industry is composed of some large factories d a great number of artisan-type establishments; the ter encounter serious economic difficulties for the sale their marginal production on the markets of most untries and cannot compete with the big factories, uipped as they are with automatic machinery to pro- ce phials and containers, bottles, laboratory equip- ent, glass tubes, light bulbs for incandescent lamps and ate glass. Only artisan production of some artistic erit can evade competition from the machine and thus stify its existence. Most of the modern factories have gular expansion programmes and their growing output s a considerable influence on the indices shown in ble 60.

It is in plate-glass manufacture that concentration is ost intensive. Because it has a high capital density and n operate economically only when a very large market available, this type of industry cannot exist in all the untries of the region, and where it does, the number establishments is very limited. Table 62 shows pro- ction of plate glass in selected countries.

Table 62. **Latin America: Production of plate glass**

(Thousands of square metres)

Argentina	2,564[a]
Brazil	2,718[b]
Chile	986[c]
Mexico	1,021[d]
Uruguay	545[d]

Source: Information provided by manufacturers.

[a] 1954.

[b] State of São Paulo in 1950 only.

[c] 1953.

[d] 1955.

9. Iron and steel

Latin America's steel-making production showed increments of 3.5 per cent for pig-iron; 6.4 per cent for steel ingot and 10.2 per cent for rolled products. (See table 63.) The relatively slow rate of growth of pig-iron production was the result of stagnation in Brazil and lower output in Chile. Brazil's production has practically reached maximum capacity and it appears probable that there will be no sizeable increase until the new steel-making furnaces enter production and the expansion programmes for present mills are completed. As for Chile, the relining of the Huachipato blast furnace and a 17-day strike prevented output from exceeding that of 1954.

The increment in Argentina may be attributed to the greater availability of imported raw materials (billet), which permitted a far greater use of installed capacity. In Mexico, the substantial rise in production was largely due to the considerable increase in rolled products, to the more regular operation at the new mills begun in 1954 and to the entry into production of others in 1955. Annual steel-making capacity thus exceeded one million tons, that is, it increased by 108.2 per cent in relation to 1950.

Production at the Paz del Río steel mill in Colombia gradually became normal, after the initial contingencies common to new undertakings. By April 1955, monthly production of ingot had risen from 500 to 4,000 tons and the mill is expected to be operating at full capacity very shortly.

Table 63. **Latin America: Production of pig-iron, steel ingot and rolled products**

(Thousands of tons)

	1954			*1955*		
	Pig-iron	*Ingot*	*Rolled products*	*Pig-iron*	*Ingot*	*Rolled products*
Latin America	1,687	2,257	2,282	1,753	2,423	2,591
Argentina	41	168	539	...	180	667
Brazil	1,089	1,148	971	1,070	1,156	1,029
Chile	305	350	244	256	319	240
Colombia	—[a]	—[a]	—[a]	99	77	35
Mexico	252	591	503	328	691	586
Uruguay	...	...	26	...	...	32

Sources: Argentina: Centros Industriales Siderúrgicos y Centros Laminadores Industriales Metalúrgicos Argentinos; Brazil: Serviço de Estadística da Producao, Ministerio de Agricultura; Colombia: Empresa Siderúrgica Nacional; Chile: Compañía de Acero del Pacífico; México: Banco de México, S.A. and Mexican steel mills; Uruguay: producing mills.

[a] Although inaugurated in October 1954, the Paz del Río steel mill actually entered production early in 1955.

Latin America's steel industry also registered major changes in the quality and diversity of its products. Of special significance is the development of the alloy steels required by the transforming industry. Brazil made the greatest progress in this field, not only as to the types of rolled products, but also in forgings and castings, using high and low alloys.[16]

Broadly speaking, the level of steel consumption remained above production, but no shortage existed, since any deficit was met by imports, which in some countries even exceeded the demand. This was so in Brazil, where, despite growing domestic output, 322,000 tons of steel were imported in 1954, or 100,000 tons more than the average for previous years. Another 200,000 tons were imported during the first six months of 1955. These large shipments affected domestic production and, for the first time in its history, Volta Redonda closed the year with accumulated stocks.[17] Also for the first time, Brazil began to export steel products to industrialized countries. During 1955, some 20,000 tons of pig-iron were shipped to the United Kingdom and at the beginning of 1956 preparations were being made to send a similar tonnage to the United States.

Latin American plans for the development of steel making have proceeded. Work continued on the San Nicolas expansion projects in Argentina.[18] The Companhia Siderurgica Nacional of Brazil was granted a loan of 35 million dollars to help in the enlargement of the third blast furnace at Volta Redonda and to purchase the equipment required to complete the original plan for attaining a million tons of rolled products annually.[19] Meanwhile other enterprises continued the building of further installations, especially in São Paulo and Minas Gerais, aimed at creating productive capacity in good time to meet future short-term demand, mainly from the motor vehicle industry.[20] One of the important projects on the verge of implementation is the new integrated steel mill to be located at Santos, on the coast of the State of São Paulo. Its initial capacity will be slightly over 200,000 tons of broad sheet yearly; it will later rise to 600,000 tons, when projected expansions have been made.[21] This mill will be outstanding both because it is the first of its kind to be located on the coast and because the production programme includes a predominance of products utilized by domestic transforming industries, all of which were formerly imported. Expansion proceeded actively in Mexico, particularly in the centres of Monclova and Monterrey, where additions to existing capacity will comprise a cold rolling mill of 56,000 tons, a semi-continuous combination rolling mill of 120,000 tons, three electric furnaces for 245,000 tons and an electrolytic installation for 45,000 tons a year of tinplate, whi will permit a 50 per cent saving in tin consumption. T installation of the Chimbote rolling mills in Peru w practically completed, and the first consignments of i ported billet were expected to arrive early in 1956 that the rolling mills will be able to operate while t two electric furnaces for steel ingot are being assembl Venezuela, in turn, signed a contract with an Italian fi for the establishment of a steel mill at Puerto Ordaz. will have an annual capacity of 150,000 tons of ingot a the date of completion has been fixed for the end of 19 All these new undertakings, together with the efforts some countries to diversify their steel production, a clear indications that Latin America is entering upon stage of definite expansion in this important bas industry.

10. TRANSFORMING INDUSTRY FOR IRON AND OTHER META

This is one of the sectors which most strongly i fluence the dynamics of a country's economic develo ment, because it comprises the mechanical and metallu gical industries manufacturing equipment for agricu ture, industry, mining, transport and energy, all of whi are essential for increasing production and raisi productivity.

Among the countries where this sector has develop rapidly during recent years is Brazil. Domestic produ tion has already replaced almost all imports of durab consumer goods[22]—metal furniture, electrical househo appliances, radiotelephone equipment, etc.—and the pre ent aim is to produce building equipment for heavy i dustry.[23] For this purpose, the Associação Brasileira pa o Desenvolvimento de Industria de Base has been create Through its members—the principal Brazilian enterpris in this field—the Association has begun to lend its se vices to the petroleum industry[24] and the heavy chemic industry.[25] The establishment in Brazil of two importa European enterprises will considerably accelerate activi in these branches of the heavy mechanical industry.

The manufacture of parts or spares for motor vehicl has developed rapidly in Brazil and some exports a now being made. For some two years, Brazilian indust has supplied 30 per cent of the weight of all vehicles;

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[16] When special steels are taken to include such items as rolled products for machinery and tools, sheet for motors and transformers and spring steel, Brazil's consumption in 1955 was about 80,000 tons, of which 60 per cent was supplied by domestic production.

[17] The only item in short supply was that of heavy bars, which are not yet produced in Brazil.

[18] A major step towards the accomplishment of this project was the approval of a loan of 60 million dollars, early in 1956.

[19] This development will right the balance between Volta Redonda's production of pig-iron and of rolled products.

[20] The annual manufacture of 50,000 medium-sized lorries will alone represent an additional consumption of 20,000 tons of special steels, or some 40 per cent of the output registered in 1955.

[21] The Brazilian authorities have announced a target of 2 million tons of ingot by 1960.

[22] In certain branches, such as the manufacture of table a wall clocks, productive capacity exceeds consumer needs and t industry is currently facing certain difficulties which it is tryi to alleviate or overcome through exports. It is also estimated th the present rate of production of sewing machines—156,000 un in 1954 and 224,000 in 1955—will within two years exceed dom tic market requirements and that an export policy must planned immediately.

[23] The industry manufacturing machinery and equipment h idle productive capacity between 1946 and 1953 because it cou not compete with imports, which enjoyed preferential treatme Since 1954, as a result of import difficulties, this branch has d played great activity. Moreover, since imported machine tools we relatively cheap in terms of cruzeiros, mechanical and metallur cal undertakings tended to add equipment to their installatio without considering how intensively it could be utilized. Th situation has now changed, and because of the high cost of m chinery, the companies are attempting to make the best possi use of their productive capacity.

[24] Some 60 per cent of the equipment for the Mataripe refine which will have a capacity of 35,000 barrels a day, is to be p duced domestically.

[25] All the equipment and materials for a freon gas factory n being installed have been produced in Brazil.

ain enterprises this figure amounts to 36 per cent
it is hoped to exceed 48 per cent in 1956. There is
y indication that by 1959 domestic industry will pro-
88 per cent of the weight of the motor vehicles re-
ed by the country at that time. The remaining 12 per
, consisting of more complicated machinery, will still
mported. In 1955, several large enterprises planned
stall or expand their factories, and are only awaiting
urable official decisions as regards import policy.

reat activity in this sector was also recorded else-
re, although the rate of development was not so
d as in Brazil. Agreement was reached in Argentina
veen the State, local entrepreneurs and a United
es company for the manufacture of motor vehicles.
factory is being built at Córdoba and the installation
k is fairly well advanced. Moreover there are plans to
ufacture agricultural implements, electric motors for
ous uses, stationary diesel engines, pistons and piston
s, office machines, etc., which will increase and di-
sify the present output of Argentina's mechanical
ustry. In Mexico, the production and assembly of
ipment, machinery, motors and vehicles, has received
ng encouragement since 1954, when the exchange
was modified. The higher tariffs on some units produced and assembled abroad, as well as the increase in their prices in terms of national currency, have reduced imports, shifting demand to domestic products at the new market prices. This incentive has affected iron and steel production and major changes have thus come about in the volume, the quality and the diversity of the materials required by the mechanical industry. A measure of the considerable development in several branches of the sector which also took place in Chile is the inability of the Huachipato mill to meet simultaneously both domestic requirements[26] and external commitments, which are now fairly small. Progress was particularly marked in the output of electrical household appliances, which is now satisfying a high proportion of consumer demand. A very significant step—which may be considered as the major event in Chilean industry during 1955—was the establishment of the first large factory for agricultural machinery. The results of these efforts on the part of private domestic capital and of foreign capital and techniques will very soon be apparent in the yields and productivity of Chile's agricultural sector.

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[26] The domestic Chilean market for certain steel products fluctuates considerably, so that delivery dates cannot always be punctually met by the producing company.

Chapter V

MINING

1. Recent events and trends

During 1955 the major mineral industries in Latin America continued, broadly speaking, to follow the trends which had been established in previous years.[1] Although production remains predominantly for export, the very low percentage of output which is consumed within the region has shown a persistent tendency to rise. Nevertheless, the proportion is so small that Latin America's mining industry continues to be mainly dependent upon demand in markets outside the region. The prices of a number of the major minerals are subject to short-term fluctuations and in few other productive sectors do price variations have a more effective and rapid influence. The price problem cannot therefore be divorced from any consideration of the mining situation in the region.

Regional production of tin dropped for the third successive year. The future of the tin mining industry in Latin America was complicated by the following uncertainties: (*a*) the policy of the United States Government with regard to the Longhorn (Texas) smelter, which remained in operation throughout 1955; (*b*) the future stockpile needs of the United States Government; (*c*) the International Tin Agreement, which has now been ratified by a sufficient number of governments and will probably become effective during 1956; (*d*) the extent to which the level of world economic activity during 1955 will be maintained.

Production of copper, lead and zinc continued to rise as a result of unprecedented peacetime demand by consumers in Europe and the United States. Output of zinc in Latin America surpassed the peak achieved in 1954 by about 16 per cent. Regional production of copper increased by more than 12 per cent, exceeding the post-war record set in 1952, even though work stoppages due to labour disputes kept production from rising to capacity levels during several weeks of the year. New investment in copper mining and ore-dressing plants in Latin America and elsewhere should result in an annual expansion of output for the next eight or nine years.

The relation between the Latin American production of iron ore, bauxite and sulphur, and world levels of industrial activity is more complex. Exploitation of Latin American deposits of these minerals results from long-range development programmes on the part of the major consumers. Plans for utilizing Venezuelan iron ore, for example, were developed by integrated steel producers before the Second World War. Expansion programmes for bauxite and sulphur production facilities have been planned and executed in a similar manner and they would probably have been put into effect regardless of business-cycle conditions. As the use of these commodities is determined largely by technical consideration Latin American production of bauxite and iron ore wa not noticeably affected by the mild recession in th United States during 1953-54.

2. Copper

During 1955, the favourable influence of the busines cycle was nowhere more apparent than in the world co per market. This was not abnormal, since more than ha of the copper in highly-industrialized countries is use for construction, electrical and communications equi ment, machine tools and other heavy industrial comp nents, whose output plays a leading role in economi cycles. During 1954 and 1955, industrial production i both Western Europe and the United States registere one of the most rapid peace-time advances in history The impact of these events can be observed in figure which shows the world consumption of copper by area since 1947. A relatively large rise was registered i Europe during 1954 and in North America during 195

A second factor affecting the copper market since mid 1954 has been the large consumption increase in th under-developed nations of the world, and especially i the centrally-planned economies of Europe and Asia Consumption in the latter group of countries, excludin their domestic output, has taken the following forms (*a*) direct shipments of refined and unrefined coppe from producers and re-exports from other countries (*b*) imports of fabricated copper products and of ma chinery and equipment containing copper and coppe alloys.

A partial measure of the increase in these latter cate gories during 1954 and 1955 is provided by the data i table 64. It should be emphasized that these statistics ar limited to exports from Western Europe of refined an unrefined copper in bars and of simple fabricated prod ucts (uninsulated wire and cable, rods, pipe, etc.). N estimates are made of the volume of copper incorporate in electrical equipment and other manufactured product exported to the centrally-planned economies.[3]

The movements of copper prices and production ove the past five years are shown in figure XI. Noticeabl increments in world production occurred in 1952 an 1955, the years when prices also increased. It is apparen

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[1] See Chapter VI, Energy, for a discussion of coal and petroleum.

[2] In Western Europe, "the 10 per cent increase in industria production between 1953 and 1954 was practically repeated be tween 1954 and 1955". See the *Economic Survey of Europe i 1955*, United Nations publication, Sales No.: 1956.II.E.2, p. 1 A seasonally adjusted index of industrial production for the Unite States stood at 144 in December 1955, as compared with 130 year earlier and 123 in July 1954 (1947-49 = 100).

[3] London commercial circles estimate that total copper import into the Soviet Union during 1955 stood around 100,000 tons. It i apparent from table 64 that this relatively large figure has bee attained since the middle of 1954.

Figure X

RLD COPPER CONSUMPTION BY REGIONS, 1947-55

Natural scale

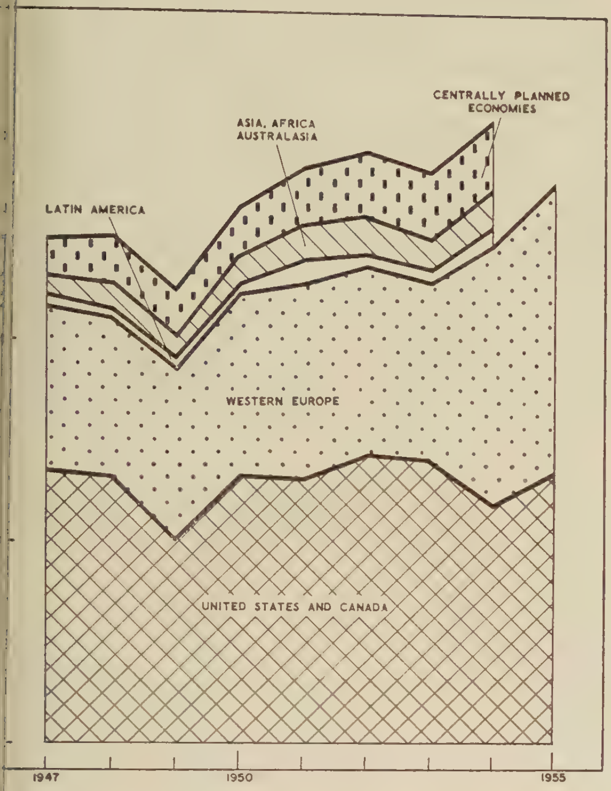

Figure XI

LATIN AMERICA: COPPER PRICES AND PRODUCTION, 1951-55

Natural scale

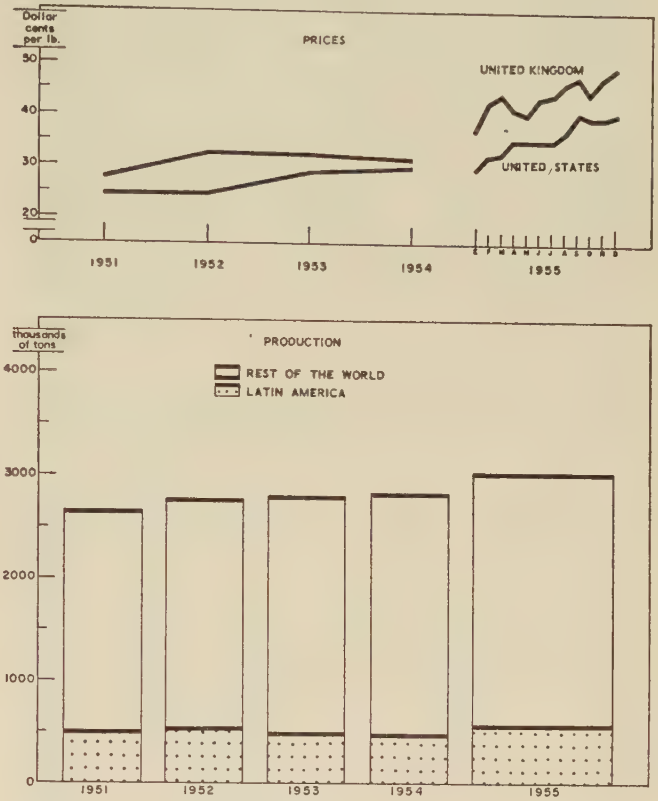

Table 64. Copper exports and re-exports to the centrally planned economies, by type of product and country, 1953-55

(Tons)

	1953	1954		1955	
	Six-month average	*Jan.-June*	*July-Dec.*	*Jan.-June*	*July-Dec.*
I. *Copper in bars*					
Belgium-Luxembourg	85	160	2,260	2,499	...
Finland	—	2,009	2,003	1,468	...
Netherlands	—	—	1,151	1,328	...
Sweden	4	1	2	210	...
United Kingdom	2,487	1,058	7,300	7,210	...
Western Germany	145	46	1,833	2,907	...
TOTAL	2,721	3,274	14,549	15,622	...
II. *Simple fabricated products from the United Kingdom*[a]					
To Hong Kong (average)......	998	975	975	680	680
To "other countries" (average)	1,318	5,329	5,329	14,514	14,514

Sources: United Nations, *Commodity Trade Statistics* (Quarterly); Board of Trade, London, *Accounts relating to Trade and Navigation of the United Kingdom.*

[a] Fabricated products (group 682 of the Standard International Trade Classification), excluding forgings and castings.

the difference between prices in London and New k, which had diminished during 1954, widened dur- the first quarter of 1955. This had the effect of di- ing a high proportion of Latin American exports ing 1955 from the United States to European markets (especially the United Kingdom). However, demand increased steadily in the United States, partly because consumers required to replace inventories which had been reduced during 1954. Copper producers responded during the first quarter of 1955 by raising the price of the metal sold on the New York market to 36 dollar cents per pound.

The shortage was aggravated by prolonged strikes at plants and mines in Northern Rhodesia, Chile and the United States, which reduced the supply of copper by approximately 131,000 tons. For the greater part of the year, the United States Department of Commerce imposed export quotas on copper and copper-base alloy scrap, wire, cable and refined copper. In the United Kingdom, 66,000 tons of primary copper were released from stockpiles to relieve the shortage. Between 16 October 1954 and 30 September 1955, more than 65,000 tons had been diverted from the United States strategic stockpile or released from other inventories accumulated by the Government of that country. A new equilibrium was finally sought in September 1955 at 43 dollar cents.[4] At this price, the demand for copper continued at a high level into 1956.

The two-cent tariff on copper in the United States, which had been negotiated with the other contracting parties to GATT in 1947, had been suspended until 30 June 1955. Provision is made that if the price dro below 24 dollar cents a pound, delivered Connectic Valley, the suspension will be revoked. Since this pri was exceeded throughout the year, the tariff was not p into effect in 1955.

Parallel with the increase in world production me tioned above, output of copper in Latin America w higher in 1955 than during any year since 1948. Produ tion in Chile and Peru rose by 45,900 and 4,200 ton respectively (see table 65). The new Chilean copper la which came into force in May 1955, led to an immedia lowering of the taxes paid by the large mining compani and placed primary emphasis on profit taxes. In additi to a basic tax of 50 per cent on profits, the law impos a surtax which diminishes from 25 per cent to zero output increases to 600,000 tons a year. The law al restores to the companies the control over sales prev ously exercised by the Central Bank. Since the date enactment, investment projects announced by the larg mining companies have totalled 226 million dollar which is the largest investment programme ever unde taken by the industry in Chile.

Table 65. Latin America: Mine production and consumption of copper, 1951-55

(Thousands of tons)

	1951	*1952*	*1953*	*1954*	*1955*
World production	2,634.7	2,745.4	2,786.6	2,807.8	3,017[a]
Latin American production	492.5	516.4	481.7	476.6	536.1
Bolivia[b]	4.8	4.7	4.5	3.7	3.5[c]
Chile	380.7	408.6	363.1	363.6	418.5[d]
Cuba	19.5	17.3	15.4	15.2	17.6[e]
Mexico	55.2	55.4	63.3	56.4	54.6[f]
Peru	32.3	30.4	35.4	37.7	41.9[g]
World consumption	2,840.3	2,927.1	2,833.4	3,090.6	...
Latin American consumption	100.6	55.1	55.7	85.7	...

Source: Yearbook of the American Bureau of Metal Statistics, 1954, unless otherwise indicated.

[a] Estimated by the British Non-Ferrous Metals Research Association.

[b] Export tonnages.

[c] Direct information from the Banco Central de Bolivia.

[d] Direct information from the Ministerio de Minería, Chile; includes 14,134 tons of blister copper produced at the Paipote Smelter. Output of the small and medium mining companies not taken to Paipote is also estimated.

[e] Estimated on the bases of exports to the United States.

[f] Direct information from the Dirección General de Minas y Petróleos, Mexico.

[g] Direct information from the Sociedad Nacional de Minería y Petróleos, Peru.

The world's capacity for copper production is also rising rapidly. Table 66 shows the copper output in 1955 of the mines which have expansion programmes in progress and indicates how their annual capacities and those of new properties scheduled to enter operation are expected to rise during the period ending in 1958. These estimates were made on the basis of announced expansion plans. Other projects may be forthcoming if demand for copper continues at its present high level. It is estimated that world capacity will exceed 2.9 million tons in 1958, apart from the capacity of the centrally-planned economies. (See table 66.)

The slight decline in projected Latin American production indicated in table 66 reflects the anticipated depletion of one deposit in Cuba. However, production in the region is expected to rise in 1959 when the Toquepala mine in Peru enters operation with a scheduled capacity of 120 thousand tons. Further expansion is an ticipated in 1961-62 when the El Salvador (Indi Muerto) project in Chile comes into production with a eventual capacity of 100 thousand tons.

As indicated above, the influence of long-term factor has been obscured in recent years by very pronounce cyclical fluctuations in the short-term determinants o the demand for copper. The data presented in figure demonstrate that no real growth trend has been apparen in the North American market since the Second Worl War. As pointed out in an earlier edition of the *Survey* a declining trend in the relationship between industria output and copper consumption in the industrialize countries can be observed during recent years. In othe words, copper consumption in the United States and i the major countries of Western Europe since 1949 ha undergone smaller proportional changes than industria

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[4] In February 1956 the New York price again rose to 46 dollar cents.

[5] See the *Economic Survey of Latin America, 1953, op. cit* pp. 180-181.

ut, in relation to the years 1947-49 and earlier pe-
ls. This is attributable to the fact that the copper
istry faces competition from several metals which
e made inroads into the consumption pattern during
post-war period.

ble 66. Estimated world copper production capacity at new mines and mines undergoing expansion programmes, 1955-58[a]

(Thousands of tons)

	No. of projects	1955	1956	1957	1958
n America	7	392	434	433	431
ted States	7	79	156	199	213
ada	15	84	129	134	177
ca	10	344	380	422	469
ers[b]	9	25	34	41	50
TOTAL	48	924	1,133	1,229	1,340
jected world apacity	—	2,484	2,692	2,788	2,900

ource: Compiled from data supplied by the Copper Committee
he Copper and Brass Research Association.

Excludes the Eastern European Republics, the Soviet Union,
nland China and North Korea.

Refers to Australia, Austria, Israel, Norway and the Philip-
es.

Aluminium wire with a steel core has displaced copper
long-distance transmission lines, a change which ap-
rs permanent. Other typical substitutions of alumin-
n for copper are fractional horsepower motor wind-
s and light-bulb bases. There has also been an accel-
ted shift to the use of steel instead of brass in shell
es. Technology has furthered the process of replace-
nt by the introduction of the numerous clad metals,
ich use proportionately less copper. Printed electrical
cuits have also entered some fields as a substitute for
per wire, while aluminium and stainless steels have
luced the use of copper in the building industry.

Copper has retained certain markets in the past be-
use aluminium has been in short supply. In addition,
merous industrial uses remain for which copper is par-
ularly well suited. A concentrated effort to produce a
rable radiator for motor vehicles of a material other
an copper has not yet yielded results. The heating, air-
nditioning and refrigeration industries, in which cop-
r tubing is used extensively and is unexcelled, will
obably continue to absorb substantial tonnages of this
etal.[6] However, the long-term growth trend has been
cidedly less favourable for copper than for most of its
tential substitutes.

3. TIN

Increased world consumption of tin during 1955
nded to bring supply and demand into better balance
an during the two preceding years. A relatively minor
cline in estimated world production during 1955 re-
lted from a three per cent reduction in Bolivian exports
tin concentrates. In 1953, world production had ex-
eded consumption by 44,200 tons; in 1954, by 37,100;
d in 1955, by 27,300 tons (see table 67). An increase of approximately 6.4 per cent in world consumption of primary tin resulted in a sharp depletion of consumer stocks by the end of 1955.

Table 67. Latin America: Mine production and consumption of tin

(Thousands of tons)

	1951	1952	1953	1954	1955
World production ..	170.1	173.2	179.3	179.8	179.2[a]
Latin American production	34.5	33.4	36.3	30.0	29.3
Argentina	0.2	0.3	0.2	0.1	0.1[b]
Bolivia[c]	33.7	32.5	35.4	29.3	28.4[d]
Brazil	0.2	0.2	0.2	0.2	0.2[b]
Mexico	0.4	0.4	0.5	0.4	0.6[e]
World consumption	141.7	134.1	135.1	142.7	151.9
Latin American consumption	4.4	4.3	4.5	4.7	4.5

Source: International Tin Study Group, *Statistical Bulletin*, December 1955, unless otherwise indicated.

[a] Estimated on the basis of 10- and 11-month data.

[b] Estimated on the basis of 10-month data.

[c] Export tonnages.

[d] Direct information from the Banco Central de Bolivia.

[e] Direct information from the Dirección General de Minas y Petróleos, Mexico.

Minor changes in market conditions therefore had the effect of causing wide fluctuations in tin prices. In December 1955, the New York market temporarily reached 1.10 dollars per pound, as compared with the lowest level of 0.86 cents per pound registered during January of the same year.[7] Although the price tended to rise during 1955, the volume of tin entering the strategic stockpile maintained by the United States Government was almost equal to the difference between world production and consumption. The minimum stockpile objective for tin was reached some time ago and the long-term objective should be attained by June 1956. With the complete termination of official Government stockpile purchases in the United States, a sizeable surplus may appear during 1956.

The International Tin Agreement, 1953, provides for the establishment of an International Tin Council with powers to determine from time to time the quantities of tin which may enter world trade through the imposition of export quotas. By February 1956, the Agreement had been ratified by national parliaments on behalf of the following producers: Belgian Congo and Ruanda-Urundi, Bolivia, Federation of Malaya, Nigeria and Indonesia, for a total of 934 votes. The following consumer governments have also ratified the Agreement: Australia, Belgium, Canada, Denmark, Ecuador, France, India, the Netherlands and the United Kingdom, for a total of 347 votes.[8]

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[6] United States Bureau of Mines, *Mineral Facts and Problems*,
lletin 556, March 1956.

[7] However, by 16 February 1956, the New York price had fallen just below 1.00 dollar per pound. The causes of this temporary price increase, *inter alia*, were: (*a*) uncertainty over the future supply owing to political disturbances in Malaya and the Near East, and (*b*) heavy buying to build up inventories at the end of the year.

[8] The Agreement was to have entered into force when ratified by producing countries holding not less than 900 votes and at least nine consuming countries holding not less than a total of 333 votes. The United States has indicated that it will not adhere to the Agreement. In addition, Brazil, Switzerland and Western Germany have not signed it to date.

The actual date of entry into force is to be fixed by the ratifying Governments. The Agreement aims at stabilizing market conditions through the establishment of a buffer stock up to the equivalent of 25,000 long tons of tin metal.[9]

If the International Tin Agreement becomes effective in 1956, the contributions to this buffer stock should offset the effects on the world market of a possible termination of strategic purchases in the United States. In the absence of a prolonged world depression, the long-range demand prospects for tin appear to be promising. As a result of extensive research in recent years, new uses for tin are being developed to replace at least some of the losses in former applications. The most important of such developments is the coating of various products with tin-base alloys by electro-deposition; a still growing field for tin salts is in the preparation of electrolytes for use in this process.

The United States Government is faced with the problem of the management and eventual disposal of the Longhorn (Texas) tin smelter. Costs are higher at this smelter than elsewhere, largely because it accepts all grades of concentrates, some of which are very costly to treat. In 1955, a resolution was passed by the United States Congress, permitting the smelter to be operated until 30 June 1956. This resolution also requests the Executive to study and present to Congress its recommendations as to the most feasible method of maintaining a permanent domestic tin smelting industry, under public or private ownership. The final decision as to the operation or disposal of the Longhorn smelter will be subject to approval by Congress.

Excluding the Longhorn plant, adequate smelter capacity exists today to meet world requirements for tin consumption. Since no single country controls either the ore production or the major smelters, there will be continuing competition among the smelters for the ores and among the producers for world markets. In this connexion, an important British firm has contracted to purchase 50 per cent of the Bolivian tin ore produced over a period of five years dating from January 1956.

The Longhorn smelter currently absorbs about half of Bolivia's output of tin concentrates; if it were closed they would have to be sold to European smelters. It is doubtful whether as high a price could be received on the open market for Bolivian concentrates, since operations at the Longhorn smelter have shown a consistent loss. But it would be difficult to estimate the price-differential represented by this loss, since demand conditions for tin metal are likely to vary over the next few months. Moreover, some proportion of the tin metal produced by the Longhorn smelter has been of a type which cannot readily be sold for use in tin plate.

4. LEAD AND ZINC

The expansion of demand for zinc alloy die castin and lead-base battery plates in the United States to m the requirements of the "eight million" automobile y was perhaps the outstanding feature of the world mar for lead and zinc. Demand in Europe also attained rec levels. Aggregate world consumption of lead is estima to have increased by about 5 per cent and that of zinc 12 per cent.[10]

World production of lead rose by 2 per cent abo 1954 levels. In marked contrast to the situation for co per, tin and zinc, and despite a sharp depletion of smel stocks, the world lead market remained calm througho the year. Prices rose by one dollar cent per pound to s teen cents during the last two quarters. However, t total world supply, including recoveries of seconda lead, currently exceeds requirements. Regional produ tion has shown a slight downward trend since 1952. (S table 68.)

North American consumption of lead expanded s nificantly in the building and ceramic industries, and the fabrication of nuclear shielding materials.[11] This l ter application should grow with the increasing produ tion of atomic power and use of radioisotopes. There h been no definite trend in regional consumption over t last five years.

In 1955, world production of zinc rose by some 8 p cent (see table 69). As noted earlier, output in Lat America attained a level about 16 per cent above that the previous year, continuing a trend which has bee apparent since 1951. The increment in 1955 was partic larly marked in Argentina, Guatemala and Mexico.

Zinc prices rose rapidly during 1955, although in t second half of the year there was a drop in deliveries the United States Government, which reached the lowe level since the accelerated stockpiling programme we into effect. Advances on the New York market were regi tered in the second and third quarters of 1955.[12] T over-all expansion of demand for zinc has shown steady upward trend, resulting in higher prices an greater production. Although this demand has show instability in the past, the present trend is supported part by the stockpiling policy of the United States. D spite some criticism, the objective of an expanded stoc piling programme has been followed since mid-1954 an alternative to increases in the tariff on this metal.

5. IRON ORE

The upswing in the regional production of iron o during 1955 exceeded the annual rate of increase regi tered during the years 1951-54. This greater output too place despite reduced production in Brazil and Chil and arose largely from the continued expansion in Ven zuela at Cerro Bolivar and, to a lesser extent, at the E Pao mines. Two more large concessions, as well as other

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[9] Initial contributions to the buffer stock are to be made on such a date as the Council may decide. Producing countries will make initial contributions equivalent in the aggregate to 15,000 long tons of tin metal, 25 per cent of which must be in cash. Percentage contributions of tin metal and cash are allocated among producer countries as follows: Belgian Congo and Ruanda-Urundi, 8.72; Bolivia, 21.50; Malaya, 36.61; Nigeria, 5.38; Indonesia, 21.50; Thailand, 6.29 (article VIII, sections 1 and 2). "Cash" is defined in the Agreement as United States dollars or pounds sterling.

[10] Discussion by Mr. Simon D. Strauss before the National I dustrial Conference Board, as reported in *Metal and Miner Markets*, New York, 26 January 1956.

[11] These uses are not reported separately in consumption st tistics. See "Lead Survey and Outlook", *Engineering and Minin Journal*, New York, February 1956.

[12] In February 1956 the price stood at 13.5 dollar cents as com pared with 11.5 in January 1955.

Table 68. Latin America: Mine production and consumption of lead

(Thousands of tons)

	1951	*1952*	*1953*	*1954*	*1955*
World production	1,641.2	1,759.3	1,811.4	1,914.1	1,952[a]
Latin American production	377.4	402.9	390.2	379.6	380.3
Argentina	24.0	20.0	15.9	26.0	35.0[b]
Bolivia[c]	30.0	29.3	23.8	18.2	19.1[d]
Brazil	3.5	2.8	3.0	3.0	...
Chile	7.8	4.1	3.2	3.2	3.6[a]
Ecuador	—	0.1	0.1	—	0.1[e]
El Salvador	0.5	0.1	—	—	—
Guatemala	3.3	4.2	7.1	2.4[f]	9.0[a]
Honduras	0.5	0.5	1.0	1.5[fg]	1.0[a]
Mexico	225.5	246.0	221.5	216.6	210.8[h]
Peru	82.3	95.8	114.6	108.7	101.7[i]
World consumption	1,650.9	1,598.1	1,759.7	1,937.9	2,035[a]
Latin American consumption	72.7	50.3	44.6	67.3	...

Source: *Yearbook of the American Bureau of Metal Statistics*, 1954 and *Minerals Yearbook*, 1953, unless otherwise indicated.

[a] Estimated.

[b] Estimated on the basis of 10-month data from *Síntesis Estadística de la República Argentina.*

[c] Export tonnages.

[d] Direct information from the Banco Central de Bolivia.

[e] Information from the Dirección General de Minas y Petróleos, Ecuador.

[f] As reported by the United States Bureau of Mines.

[g] Imports into the United States.

[h] Information from the Dirección General de Minas y Petróleos, Mexico.

[i] Information from the Sociedad Nacional de Minería y Petróleos, Peru.

Table 69. Latin America: Mine production and consumption of zinc

(Thousands of tons)

	1951	*1952*	*1953*	*1954*	*1955*
World production	2,223.5	2,458.3	2,518.7	2,524.4	2,726[a]
Latin American production	334.4	416.7	404.6	424.2	490.3
Argentina	15.5	15.4	16.1	18.9	41.0[b]
Bolivia[c]	30.5	35.6	24.0	20.4	21.3[d]
Chile	0.6[e]	3.3[e]	3.2[e]	1.5[e]	2.5[a]
Guatemala	6.5	8.2	6.1	4.0[e]	23.0[a]
Honduras	0.1	0.3	0.6	0.7[e]	1.3[a]
Mexico	180.0	227.4	216.5	223.7	269.4[f]
Peru	101.2	126.5	137.7	155.0	131.8[g]
World consumption	2,055.1	1,964.1	2,135.0	2,319.7	2,589[a]
Latin American consumption	43.1	33.2	31.0	49.7	...

Source: *Yearbook of the American Bureau of Metal Statistics, 1954* and *Minerals Yearbook, 1953,* unless otherwise indicated.

[a] Estimated.

[b] Estimated on the basis of 10 month data from *Síntesis Estadística de la República Argentina.*

[c] Export tonnages.

[d] Direct information from the Banco Central de Bolivia.

[e] As reported by the United States Bureau of Mines.

[f] Information from the Dirección General de Minas y Petróleos, Mexico.

[g] Information from the Sociedad Nacional de Minería y Petróleo, Peru.

d in reserve by the Governmentof Venezuela, were not loited during 1955. Production from the Marcona osits in Peru has continued its rapid increase. (See le 70.)

The significant drop in Chilean production, which sed the country to move from third to fourth place in ional iron ore output, was perhaps due to the exhaus- n of good ore at the El Tofo mine. Port facilities at ayacán, which will serve the new El Romeral mine er El Tofo has been exhausted, were completed in 55. During the year the Cerro Negro and Carmen osits of high-grade iron ore, in the Atacama area, e under development. The mineral is to be shipped to the United States and Western Germany for mixing with lower-grade ores. The iron ore production of the small and medium mining companies in Chile increased by 272 per cent during 1955, rising from 169,000 to 632,000 tons.

In the same year, a large iron ore producer in Brazil received a loan of almost 34 million dollars from the Export-Import Bank with which to buy mining and railway equipment. It is thought that these developments will raise production in the State of Minas Gerais from 2,262,000 to 3 million tons annually.

As North American steel producers expect to add 16 million tons over the next three years to their present

Table 70. Latin America: Production and consumption of iron ore

(Thousands of tons—estimated iron content)

	1951	1952	1953	1954	1955
World production	111,600	108,700	123,500	104,000	...
Latin American production	5,525	6,077	7,672	9,126	11,940[a]
Argentina[b]	19	32	36	41	...
Brazil	2,413[c]	2,972[c]	3,353[c]	2,784[c]	2,648[d]
Chile	1,961	1,428	1,723	1,310	978[e]
Colombia[a]	—	—	18	22	168
Cuba	6	34	137	15	19
Dominican Republic[f]	—	10	44	53	...
Mexico	313	340	331	314	376[a]
Peru	—	—	558	1,118	1,804[g]
Venezuela	813	1,261	1,470	3,469	5,850[h]
Latin American consumption[i]	1,289	1,418	1,444	1,712	...

Source: Statistical Yearbook 1955, United Nations publication, Sales No.: 1955-xvii-10 and *United Nations Monthly Bulletin of Statistics*, Vol. X, No. 2, February 1956, unless otherwise indicated.

[a] Estimated.

[b] Direct information from the Centro de Industriales Siderúrgicos, Argentina.

[c] Estimated on the basis of exports and pig-iron production reported by the United States Bureau of Mines.

[d] Estimated on the basis of 10-month data from the Ministério da Agricultura, Brazil.

[e] Information from the Ministerio de Minería, Chile.

[f] Estimated on the basis of iron ore imports into the United States.

[g] Information from the Sociedad Nacional de Minería y Petróleo, Peru.

[h] *Venezuela Up to Date*, Vol. VI, No. 9, February 1956, published by the Venezuelan Embassy in Washington, D.C.

[i] Estimated on the basis of pig-iron production.

productive capacity of 128 million tons, their iron-ore requirements will continue to grow at a rapid rate. In addition, the current tendency toward producing more pig iron in each blast furnace necessitates the use of ores with a higher iron content than those formerly consumed. This will doubtless encourage greater output of the high-grade Latin American product, in view of the current high cost of concentrating the lower-grade materials.

Although no statistics for 1955 are yet available, there has been a steady upward movement in regional consumption. An important new consumer is the steel mill at Paz del Río, Colombia, which entered production in 1955. The discovery of additional deposits of iron ore in the Paz del Río area was announced in the same year. The existence of these new resources means that the supply of iron ore for the steel mill will be sufficient for about 50 years, at a rate of exploitation of 3,175 tons per day, or about three times the current rate.

6. BAUXITE

As a result of expansion programmes undertaken since 1950, the alumina capacity of North America has been doubled, thus increasing dependency upon imported bauxite. In addition to the supplies for alumina, from which virgin aluminium is made by the Hall process, bauxite requirements for abrasive, chemical, refractory and other uses have increased. As a result of the higher demand, existing production facilities in Latin America have been expanded and new resources are being developed. Large producers of aluminium are exploiting deposits in British Guiana, the Dominican Republic, Haiti, Jamaica and Surinam. Regional production of alumina is confined to Brazil and Jamaica. Data on regional production and consumption of bauxite are presented in table 71.

Expansion programmes had been completed in all these areas—with the exception of Brazil, Haiti and the Dominican Republic—and were in commercial operation during 1955. In Brazil, construction began in the course of the year on an integrated primary aluminium plant which will include a section for producing alumina. The plant will be located at Rodovalho, 75 kilometres from São Paulo, and will produce roughly 30,000 tons of alumina per year from domestic bauxite.

The mining installations on the Plateau de Rochelois, near Sainte Croix in Haiti, are nearing completion, although no exports of ore have yet been made. Experimental shipments of ore have begun from the mine at Pedernales in the Dominican Republic, which is expected to enter commercial production during 1956. Reserves recently explored in Haiti and the Dominican Republic represent not less than 30 million tons of bauxite, averaging 47 per cent alumina.[13] Bauxite resources of the major producers in Latin America were recently estimated to total 656.6 million tons, or almost 41 per cent of known world reserves. (See table 72.)

7. SULPHUR

Native sulphur, pyrites and other metallic sulphide ores, petroleum gases, coal, gypsum and various industrial wastes all contributed to the world supply of sulphur. The present structure of the world industry is, however, based on the price and availability of sulphur produced by the Frasch process, which has radically modified the previous pattern of supply.

As late as 1952, Latin America was still a net importer of sulphur.[14] But the region has now become an

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[13] See United States Bureau of Mines, *Mineral Trade Notes*, Vol. 38, No. 6, June 1954.

[14] See the *Economic Survey of Latin America, 1953, op. cit.*, table 168.

Table 71. Latin America: Production and consumption of bauxite

(Thousands of tons)

	1951	1952	1953	1954	1955
World production	11,002.6	12,601.4	13,440.6	15,375.0	...
Latin American production	4,731.0	5,924.5	6,679.0	7,701.4	7,713[a]
Jamaica	—	419.6[b]	1,238.3[b]	2,098.1[b]	2,569.8[c]
Brazil	19.0	14.3	18.8	22.7[a]	...
British Guiana[d]	2,034.9	2,322.6	2,146.0	2,159.6	2,438[e]
Surinam	2,677.1	3,168.0	3,275.9	3,421.0	2,684[f]
Latin American consumption	1.6[f]	4.5[f]	4.9[f]	6.2[f]	4.5[g]

Source: Yearbook of the American Bureau of Metal Statistics, 1954 and United States Bureau of Mines, unless otherwise indicated.

[a] Estimated.

[b] Direct equivalent of crude ore.

[c] Excludes shipments of alumina totalling 186,912 tons, or an equivalent of 407,306 tons of bauxite.

[d] Export tonnages.

[e] Estimated on the basis of reported shipments to Canada (2,200,000 tons) and to the United States (238,000 tons).

[f] Estimated on the basis of the ratio between output and imports into the United States (1951-54).

[g] Estimated on the basis of 3.68 long tons of bauxite (dry weight) per short ton of aluminium produced, and excluding consumption for abrasive, chemical, refractory and other uses.

Table 72. Latin America: Bauxite reserves[a]

	Millions of tons	*Percentage of world reserves*
zil	192.0	12.0
ish Guiana	65.0	4.0
ninican Republic	6.1	0.4
ti	23.4	1.5
aica	320.0	19.9
inam	50.0	3.1
TOTAL	656.5	40.9

ource: United States Office of Defense Mobilization: *Materials vey—Bauxite*, Washington, D.C., October 1953.

Estimated in October 1950.

portant source of world supply with the exploitation the salt dome area of the Isthmus of Tehuantepec in exico by means of the Frasch process. (See the production data in table 73.) Since mid-1954, when production in the Tehuantepec area began, the monthly figures for Mexico's output have risen rapidly and in 1955 the volume attained was 520,800 tons as compared with 115,100 in 1954. Exports from Mexico in 1955 amounted to only 180,000 tons owing to transport difficulties and the need for building up stocks. Installations at the port of Coatzacoalcos are at present being enlarged to handle the greater volume of production and will materially assist increased sulphur shipments abroad.

The rapid advance of production in Mexico has been the only major change in the region's output of native sulphur. (See again table 73.) Production in Argentina has moved up steadily, reaching a peak figure of 22,000 tons in 1955, but imports still account for a major share of consumption. Chilean output has been uneven and is principally hindered by high operating costs. Elsewhere there have been no significant changes, partly because the price for sulphur imports remains relatively low. A considerable problem exists in Brazil, where imports continue to rise and no native sulphur deposits have been found.

Table 73. Latin America: Production of native sulphur

(Thousands of tons)

	1951	1952	1953	1954	1955
World production	5,893	6,096	5,893	6,150	...
Latin American production	63.4	72.8	68.1	183.7[a]	572.7[a]
Mexico	11.6	12.0	6.0	115.1[b]	520.8[b]
Argentina	7.7	18.6	19.0	21.3	22.0[c]
Bolivia[d]	9.2	5.6	2.5	2.6[e]	4.0[f]
Chile	30.1	48.6	32.8	44.7[g]	25.9[g]
Colombia	2.5	3.0	2.7	...	...
Ecuador	—	2.4	0.1	—	—
Peru	2.3	5.1	5.0	...	...

Source: United Nations Statistical Yearbook, 1955, op. cit., and *Minerals Yearbook, 1953*, unless otherwise indicated.

[a] Estimated.

[b] Information from the Dirección General de Minas y Petróleos, Mexico; includes sulphur from all sources.

[c] Estimated on the basis of 10-month data from *Síntesis Estadística de la República Argentina.*

[d] Export tonnages.

[e] Information from the Banco Minero de Bolivia.

[f] Information from the Banco Central de Bolivia.

[g] Information from Departamento de Minas y Petróleos, Chile.

Chapter VI

ENERGY

1. Introduction

During 1955 gross energy consumption in Latin America increased by 6 per cent. Although this represents a 4 per cent increment in *per capita* consumption, there was no major expansion of the region's energy resources in relation to the gross product, since the latter rose in the same proportion.

The consumption pattern presented the same general features observed in the post-war period, namely, a steady, rapid increase in the use of electric energy and a gradual displacement of mineral coal and vegetable fuels by petroleum derivatives. This latter development was reflected in the tendency of demand for coal to remain stationary, while the consumption of vegetable fuels showed a slight decline.

In the aggregate, the level of electric energy production rose considerably during 1955 as compared with the preceding period. However, the increases were insufficient to eliminate all the existing shortages, although the supply improved in many areas where it had previously been inadequate. Because of the rapid growth of demand, a deterioration is to be feared in the next few years, unless new and greater efforts are made to expand the installed capacity of electric power plants.

There was a substantial increment in Latin America's output of refined petroleum, particularly in Mexico and Venezuela. Crude oil extraction in the other countries expanded to a smaller degree, although the percentage increase was high in some cases. Because of the pressure exerted by the growing demand for derivatives, several importing countries were obliged to use a large share of their exchange resources for fuels. To reduce the incidence of such imports upon the balance of payments, these countries had to expand their production of crude oil and their refining capacity. For Latin America as a whole, refining capacity rose by 14 per cent in 1955.

In certain countries transport problems which were hindering or actually preventing production at given oilfields have been solved by building pipelines, but greater efforts in this direction are still required to remove all the obstacles.

The deficit in the electricity supply and the ever-increasing foreign exchange expenditure on fuel imports constitute such serious problems that they have led several Latin American countries to accelerate the preparation and implementation of development programmes and plans for the energy sector. Broadly speaking, such plans cover only some aspects of the problem, such as the electricity supply or various phases in the production of petroleum. The more complete projects are those relating to the development of electricity production, but their execution tends to be retarded by financial, administrative or technical difficulties, which also aff
fuels.

Great importance is attached to increasing energy su
plies, and to this end the official organizations responsibil
for developing production of every type of energy ha
been more active and new specialized institutions ha
been created. Such a policy does not imply that this se
tor of the economy is reserved for State action alon
since parallel measures have been adopted which aim
encouraging private capital to play a larger part. Som
countries have conceded new areas to private petroleu
enterprises or have sought their co-operation in oth
aspects of the industry; elsewhere new legislation
authorize this type of operation is under consideratio
There is also an obvious trend towards making electrici
enterprises more profitable, which would render this fie
more attractive to private investment and would faci
tate capital formation in government undertakings.

The substantial investment channelled towards th
sector reflects the magnitude of the financing proble
In 1955, it represented 12 per cent of aggregate Lati
American investment and 9 per cent if only the shar
earmarked for the supply of the region itself is take
into account. Moreover, 20 per cent of all public inves
ments was used for energy. But the maintenance of
high rate of economic, industrial and urban developme
over the next few years will require a sustained and co
ordinated effort, at the technical and administrative leve
as well as in domestic and external financial planning.

2. The pattern of consumption

Although Latin America's total energy consumptio
rose by 6 per cent in 1955, the expansion did no mor
than keep pace with that of the gross product in th
same year, and signified no great increase in energ
resources. The rate of growth varied considerably fro
one country to another, but the reasons were differen
in each case. Nevertheless, there is no doubt that ver
intensive efforts were made—some countries even had t
import a growing percentage of their domestic consump
tion requirements—in order to raise energy supplies t
the level of demand. But such endeavours to expand th
sources of energy supply may be insufficient for the fu
ture maintenance of a high level of economic activity
in many of those Latin American countries where set
backs are already holding up the putting of new projects
into effect. In the region as a whole, aggregate gross and
per capita energy consumption rose in 1955 at a rate
similar to that of 1954; in other words, the rate observed
in the immediate post-war years was recovered, after
some slackening in 1952-53. (See table 74 and figure
XII.)

Total gross consumption of energy per unit of gros
product in 1955 continued to follow the slight upwar

Table 74. Latin America: Gross consumption of total energy and electricity production[a]

	Unit	*1937*	*1952*	*1954*	*1955*
Gross consumption of total energy	thousands of tons[b]	43,508	76,759	84,775	90,010
Per capita	kg[b]/per capita	373	472	496	515
Per unit of product	tons[b]/millions of dollars at 1950 prices	1,938	1,821	1,845	1,868
Composition					
A. *Excluding vegetable fuels*					
Petroleum and derivatives	percentage	57.6	74.7	75.7	75.4
Heavy	percentage	74.8	67.3	68.2	68.6
Light	percentage	25.2	32.7	31.8	31.4
Mineral coal	percentage	30.5	11.2	10.4	10.1
Hydro-electricity	percentage	11.8	14.1	13.9	14.5
B. *Including vegetable fuels*					
Petroleum and derivatives		26.8	50.1	53.5	54.8
Mineral coal		14.2	7.5	7.3	7.3
Hydro-electricity		5.5	9.5	9.8	10.6
Vegetable fuels		53.5	32.9	29.4	27.3
Electricity production					
Total	mill. kWh.	11.300	32.060	37.300	41.300
Per capita	kWh/per capita	96	197	218	236
Per unit of product	kWh/mill. of dollars at 1950 prices	503	760	812	857
Total electricity production as a ratio of gross consumption of total energy	kWh/kg.[b]	260	418	440	459

Source: Official statistics.

[a] Gross consumption includes, with the energy reaching the consumer, the energy used to produce, transform and transport it.

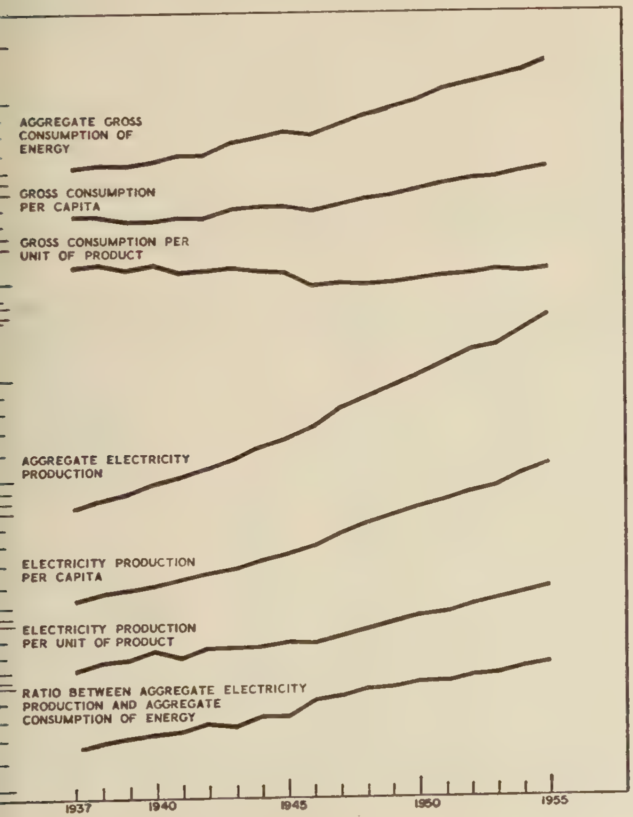
[b] Petroleum equivalent of 10,700 Cal/kg.

Figure XII

TIN AMERICA: EVOLUTION OF GROSS ENERGY CONSUMPTION AND OF ELECTRICITY PRODUCTION

(1950 = 100)

Semi-logarithmic scale



trend apparent since the mid-'forties. The rate of growth was 1.2 per cent in 1955, slightly above the cumulative annual rate of 1.1 per cent registered for 1946-55.

For total and *per capita* electricity production a similar situation was apparent: the 1954 rate of growth—slightly above the historic rate over the period 1937-55—was maintained in 1955, thus offsetting the 1953 decline. Electricity output per unit of product grew in 1955 a little more rapidly than in previous years.

Hence it is clear that 1955 witnessed at least a slight improvement in Latin America's supply of electricity. However, deficits were still high in many urban centres (300,000 kW in Greater Buenos Aires, and nearly 500,000 in São Paulo), and relatively large in other places (Quito and some Colombian towns). These deficits stand in the way of economic development and compel industry to install its own equipment, which is an uneconomic solution, except in cases where the location, the type of process or the nature of the activity concerned necessitates its adoption.

Consequently, the production of electricity must in future maintain a high rate of growth if these accumulated deficits are gradually to be met and supply is to keep ahead of demand.

The higher ratio between aggregate electricity produced and total gross energy consumed indicates the greater electrification which has been steadily taking place, but which was more pronounced in 1954 and 1955. In this latter year the index rose to 115 (1950 = 100), corresponding to 459 kWh per kilogramme of petroleum.

It should be recalled, however, that average variations in the coefficients of unit consumption of energy for a region such as Latin America, which includes countries with different economic structures and with very uneven rates of growth, conceal differing and even opposing patterns for each individual country. For instance, in economies based on mining and at an intermediate stage of development, like that of Chile, energy consumption per unit of product gradually decreased until 1954, because of the relative decline in mining, an activity in which energy consumption is intensive. In 1955, owing to the sharp upswing in mining, the coefficient also rose. The case of Argentina is diametrically opposed to that of Chile. Since economic growth there was based on agriculture, a sector where energy consumption is low, industrialization has resulted in a higher total consumption per unit of product. Nevertheless, the predominance of light industry—where energy consumption is not very high—combined with the relative mechanization of agriculture and a comparatively advanced level of technology, implying greater utilization of energy, has meant that the value of unit consumption has remained fairly constant, with only minor fluctuations.

In those agricultural countries entering upon a stage of incipient industrialization the coefficient under analysis increased rapidly, and continued to do so in 1955, as may be observed, for instance, in Central America. (See table 75 and figure XIII).

Greater energy consumption was recorded particularly in industry and mining, which offset the lower relative consumption in the other sectors.

Parallel to the 6 per cent increase in Latin America's energy consumption between 1954 and 1955, the gross product rose by approximately 5 per cent, although its growth rate was 6 per cent for manufacturing industries and 15 per cent for mining. The importance of these two sectors is patent, since their expansion in 1955 accounted for about 50 per cent of the total increase in energy consumption, even though their share in gross production does not exceed 25 per cent of the Latin American total.[1]

The country-by-country analysis will make this depen ence even clearer.

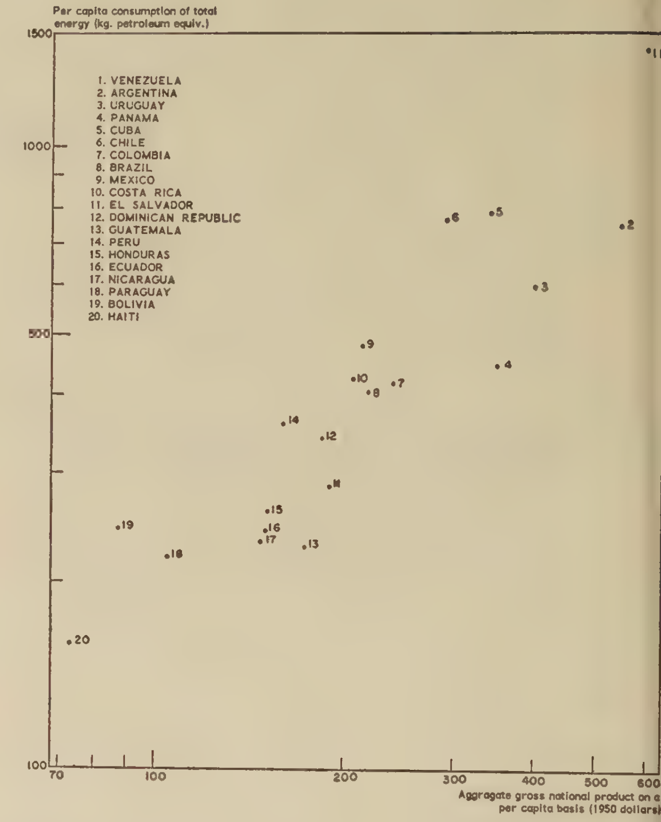
In Brazil, the gross product of industry and minin rose by 5 per cent and that of agriculture by only

Figure XIII

LATIN AMERICA: PER CAPITA RELATION BETWEEN CONSUMPTION OF TOTAL ENERGY AND AGGREGATE GROSS NATIONAL PRODUCT, 1954-55

(1950 = 100)

Logarithmic scale



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[1] The increase in average energy consumption depends to a very large extent on activity in those sectors with the greatest specific consumption. Thus, the region's 1955 output in mining, non-ferrous metals, metallurgy, steel making and semi-finishing of steel, cement, pulp and paper, sugar extraction and petroleum output and refining showed an average increase of 10 per cent—35 per cent in iron ore mining and 50 per cent in the copper industry—and accounted for approximately 15 per cent of total energy consumption.

Table 75. Latin America: Gross consumption of commercial energy[a] and aggregate electricity productio

Countries	Total[b] (Thousands of tons) 1954	1955	Percentages: Petroleum derivatives 1954	1955	Hydro-electric power 1954	1955	Mineral coal and coke 1954	1955	Aggregate electricity production (Millions of kWh) 1954	1955
Latin America	59,890	65,950	75.7	75.6	13.9	14.4	10.4	10.0	37,300	41,300
Argentina	11,690	11,860	89.2	89.4	1.2	1.3	9.6	9.3	...	...
Bolivia	330	390	65.1	65.6	33.1	33.6	1.8	0.8	...	...
Brazil	12,700	14,280	58.8	58.5	31.1	31.2	10.1	10.3	11,680	13,180
Chile	4,200	4,470	39.3	40.6	20.7	21.7	40.0	37.7	3,637	4,100
Colombia	3,360	3,900	53.6	53.2	16.5	15.9	29.9	30.9	1,950	2,230
Ecuador	360	400	88.8	87.3	11.2	12.7	—	—	230	241
Mexico	12,870	14,200	83.9	83.2	9.0	10.2	7.1	6.6	6,282	7,001
Peru	2,350	2,420	81.8	81.1	14.3	15.1	3.9	3.8	...	...
Uruguay	1,323	...	76.6	...	19.1	...	4.3	...	1,000	...
Venezuela	6,900	8,480	89.0	89.6	10.7	10.1	0.3	0.3	...	...

Source: Official statistics.

[a] Excluding vegetable fuels.

[b] Petroleum equivalent to 10,700 Cal/kg.

cent, while energy consumption increased by 6 per t. In Venezuela the 14 per cent and 11 per cent in- ments in the gross product of mining and industry pectively, were accompanied by a 20 per cent expan- n in energy consumption. The disproportionately high ure for energy was due to the greater volume of do- stic peroleum refining. Something similar happened Colombia; although the product of mining and in- stry remained practically constant, the 8 per cent in- ase in energy consumption arose from additional roleum refining and the establishment of the steel in- stry. In Chile, energy consumption rose by 6 per cent, gely through the substantial increment of 20 per cent the product of mining, which offset the 7 per cent cline in that of industry. In Argentina, the growth of rgy consumption was far less than that of the product per cent in the case of agriculture and 11 per cent mining and industry); this may have been because increase in the product was mainly recorded in light dustry and was partly brought about through a better e of equipment and improved productivity, which had effect on energy consumption.

Information available for Argentina and Brazil con- rning the distribution of energy consumption by sec- rs also confirms these observations. (See tables 76 and .) In 1955 (the difference in relation to 1954 is very ight), the industrial sector absorbed 33 per cent of all ergy in Argentina and 34 per cent in Brazil.[2] In rgentina—where figures for earlier years are available -it may be seen that in 1948-55 the share of industrial nsumption of energy in the total fell by 3 per cent, although there was a 15 per cent expansion in the volume consumed.

The composition of aggregate energy consumption was much the same as in 1954. There was still a slight trend towards increased electrification and a greater dependence on petroleum, whether in the form of heavy derivatives or of those used for road transport, although the latter's rate of growth declined in some cases and in others barely remained constant. This higher consumption of heavy petroleum derivatives follows the trend recorded for some years; apart from tending to absorb almost all new demand—which can be met only to a very small extent by hydro-electric resources—they are also displacing other fuels, particularly coal and vegetable fuels. The trend in question has been sharpened by the favourable exchange and price policies usually adopted for these fuels, although in some cases the situation altered in 1955 or the early months of 1956.

Petroleum derivatives, after rapid expansion, levelled off at 75 per cent of the total for commercial energy;[3] the slight upward trend observed in recent years slackened in 1955.

In some countries the rate slowed down a little for various reasons, a major role having perhaps been played by the shortage of foreign exchange to cover petroleum

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[2] As regards Brazil, electricity shows the higher proportions d the more rapid increase. Thus, in 1955, industries in São aulo consumed 14 per cent more electric energy than in the revious year, as against an over-all increase of 10 per cent.

[3] Almost everywhere in the world petroleum consumption grew more rapidly than that of other products (and of total energy). Over the last five years consumption of petroleum in Western Europe and Asia increased three times more than that of total energy. The increments were much smaller in those countries where petroleum already represented a considerable share of aggregate consumption, the growth being slightly below that of total energy. For the whole world, the share of petroleum and natural gas in commercial energy consumption stands at 39 per cent (76 per cent in Latin America, 63 per cent in the United States and 17 per cent in Europe).

Table 76. Argentina: Gross consumption of energy by economic sectors, 1954

(Thousands of tons of petroleum equivalent of 10,700 Cal/kg.)

	Petroleum derivatives	*Mineral coal*	*Public electricity*	*Vegetable fuels*	*Total*		*Percentages*	
					1954	*1948*	*1954*	*1948*
griculture	230	—	—	—	230	—	1.6	—
dustry	2,700	170	540	970	4,380	4,060	30.4	33.7
ransport	3,200	604	170	480	4,454	4,180	30.9	34.8
Motor vehicles and aviation	1,730	—	—	—	1,730	1,600	[a]	
Railways	1,250	590	170[b]	480	2,490	2,310	[a]	
Navigation	220	14	—	—	234	270	[a]	
esidential consumption	970	40	520	1,230	2,760	2,960[c]	19.2	24.7[c]
ublic administration and commerce	470	—	510	—	980	—	6.8	—
nergy enterprises	1,260	16	320	—	1,596	824	11.1	6.8[e]
Electric energy[d]	—	—	320	—	320	176	[a]	
Petroleum	1,220	—	—	—	1,220	620[e]	[a]	
Gas works	40	16	—	—	56	28	[a]	
TOTAL[d]	8,830	830	2,060	2,680	14,400	12,030		
ercentages	61.3	5.8	14.3	18.6	100	—	100.0	100.0

Source: National statistics. Provisional figures.

[a] Partial percentages have been omitted.

[b] Includes urban electric transport.

[c] Includes agriculture, public administration, commerce and others.

[d] Fuels for generating thermic electricity have been excluded to avoid duplication since the electricity produced has already been con- dered. In 1954 they were: petroleum derivatives, 1,600; mineral coal, 290; and vegetable fuels, 30 (all in thousands of tons of petro- eum equivalent).

[e] Petroleum refining declined considerably during 1948 in relation to preceding years, which explains the very small total under this ead.

Table 77. Brazil: Gross consumption of energy by economic sectors, 1955

(Thousands of tons of petroleum equivalent of 10,700 Cal/kg.)

	Petroleum derivatives	*Mineral coal*	*Public electricity* [a]	*Vegetable fuels* [b]	*Total*		*Percentages*	
					1954	*1955*	*1954*	*1955*
Agriculture	80	—	—	—	70	80	0.3	0.3
Industry	2,500	360	2,190	3,210	7,760	8,260	33.7	33.7
Transport	3,550	410	510	900	5,060	5,370	21.9	21.9
Motor vehicles and aviation	2,800	—	—	—	2,600	2,800	c	
Railways	500	390	190	900	1,980	1,980	c	
Navigation	250	20	—	—	240	270	c	
Urban electric transport	—	—	320	—	240	320	c	
Residential, commercial		220	2,220	6,060	9,280	9,650	40.2	39.3
and others	1,150	340	530	—	890	1,180	3.9	4.8
Energy enterprises	310	—	530	—	550	530	c	
Electricity[d]	—	—	—	—	30	310	c	
Petroleum	310	140	—	—	130	140	c	
Gas works	—	200	—	—	180	200	c	
TOTAL	7,590	1,330	5,450	10,170	23,060	24,540		
Percentages	30.9	5.4	22.2	41.5	...	100	100.0	100.0

Source: National statistics. Provisional figures.

[a] Total hydro-electricity and public thermic power. A yield of 4,500 Cal/kWh was adopted.

[b] Includes charcoal.

[c] Partial percentages have been omitted.

[d] Fuels for generating thermic electricity have been excluded to avoid duplication since the electricity produced has already been considered. In 1955, they were: petroleum derivatives, 770; mineral coal, 130; wood, 80 (all in thousands of tons of petroleum equivalent).

imports. Petroleum occupies a different place within aggregate consumption from one country to another. With the inclusion of vegetable fuels it represents about a third of the total, but, if they were excluded, the corresponding proportion would be as high as 80-90 per cent in many countries, and would, as a rule, exceed 50 per cent. (See again table 75.)

3. PRODUCTION AND CONSUMPTION OF PETROLEUM AND ITS DERIVATIVES

The increase in the output of crude petroleum has been less than the growth in the consumption of its derivatives; this is true of all the Latin American countries, except Bolivia and Venezuela. Consequently, in 1955 they were obliged to raise their imports of hydrocarbons above the level of the previous year. But the pattern of these imports changed, because increased refining capacity led to a reduction in the purchase of derivatives, and, on the other hand, to heavier purchases of crude oil.

In the course of 1955, transport deficiencies caused serious difficulties. The higher freight rates had direct repercussions on the cost of imported products, since national tanker fleets were small. Moreover, a lack of pipelines limited and even prevented the exploitation of some oilfields.

Crude oil production in the whole of Latin America, except Venezuela, increased by 6 cent in 1955. In Venezuela, where output represented 15 per cent of the world total, the expansion amounted to almost 14 per cent. Thanks to Venezuela's contribution, Latin America maintains its world position as a producer, but, excluding that country, its share in 1955 would have fallen by 10 per cent.

Extraction remained practically stationary in Colombia and Peru, but showed a very slight rise in Argentina and an increase of 7 per cent in Mexico. Ecuador, after many years of slow growth, achieved a substantial increase in production (12 per cent). Increments in Bolivia, Brazil, Chile and Cuba—although small in absolute terms—represented very high percentage rates of growth. (See table 78.)

In 1955, except in Bolivia and Venezuela, the growth in domestic production of crude oil did not suffice to meet that year's higher requirements. All the region's producers, excluding Venezuela, witnessed increments in consumption which exceeded those in production by more than a million tons, a volume equivalent to about 40 per cent of the total increase in consumption. As a result, it was necessary in some cases to reduce the net exportable surplus and in others to resort to larger imports. (See table 79.) Thus, while production rose by about 1,540,000 tons for the whole of Latin America, excluding Venezuela, aggregate consumption increased by 3,060,000 tons of petroleum equivalent.

In order to meet the growing pressure of demand for petroleum derivatives, many countries have attempted to ensure that future expansions of the production of crude shall be at least approximately equal to the increase in demand. Given the ever-growing gap between demand and output, these efforts, although intensive, have been insufficient. Despite continued geophysical and geological prospecting, as well as additional drilling of wells, both for exploration and production purposes, and although many countries have reorganized their system of concessions on a more liberal basis, there has been no satisfactory increment in output. The rate of growth for drilling has been fairly high (10 per cent annually since the end of the Second World War, which is close to that of the United States) and by the end of 1955 there were nearly 13,000 wells in production, always excluding Venezuela. The failure to achieve any proportional increase in extraction may be due to the variety of systems employed, to the relatively low yield of the wells and to

Table 78. Latin America: Crude oil situation

(Thousands of cubic metres)

	Production a		*Percentage of production exported* b	*Refining*		*Percentage of national crude oil refined*		*Refining capacity (Thousands of cubic metres/year)*		
	1954	*1955*	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*	*Under construction*
n America	138,733	155,685	83.5	53,265	65,257	89	84	65,044	73,890	17,379c
n America cluding Venezuela	28,748	30,502	32.0	27,532	34,117	78	69	35,438	43,840	7,929
entina	4,713	4,850	—	8,894	9,500	52	52	9,590	11,585	—
via	269	428	23.6	246	338	100	100	605	605	—
il	158	321	—	316	4,090	50	7	2,328	5,950	3,675
mbia	6,408	6,460	63.3	1,703	2,238	100	100	2,410	2,410	1,474
a	15	44	—	...	...	...	...	340	...	...
e	276	410	—	123	760	96	54	1,183	1,183	—
ador	522	584	41.1	305	319	91	100	315	315	—
ico	13,514	14,525	29.4	11,923	12,797	100	100	14,665	17,450	2,780
guay	—	—	—	1,406	...	—	—	1,391	1,391	—

urce: National statistics.

Including production of natural petrol, except in Bolivia, Chile, Cuba and Mexico.

Including crude oil corresponding to derivatives exported.

Excluding Cuba.

fact that in absolute terms their number is too small ermit of it.

In 1955, some importers of fuels laid the foundations an improvement in their future production prospects. particular importance in this connexion is Argen-i's statement that it is hoped to produce 3 million re cubic metres of petroleum and natural gas by 8-59. Chile in its turn considers that by 1958 most its consumption requirements can be covered by do-stic output, excluding the demand of the large mining npanies.

he greatest progress in 1955 was achieved in the ning of national crude resources. Indeed, the in-ases of 23 per cent (including Venezuela) and 24 cent (excluding Venezuela) recorded here are far her than the rates of growth attained by extraction consumption. The increments were extremely large Brazil and Chile and were substantial in Bolivia, Co-bia and Venezuela. They confirm the world trend ards more refining of crude oil in the countries where products will be consumed.

By 1955, countries such as Argentina and Uruguay re already refining sufficient supplies to meet almost their needs, while domestic refineries satisfied 40 per t of all consumption in Brazil and 35 per cent in ile.

Moreover, installed refining capacity was used to eater advantage in nearly all the countries. The de-e of utilization in Brazil and Chile rose from about to 65 per cent. (See again table 78.) In Bolivia and lombia there were sizeable increases. But these im-vements in utilization may give a false impression be-se they were achieved in plants which were completed 1954 and did not operate at full capacity until the ly months of 1955, or even later. Much the same was e of Argentina and Mexico in 1955. In Ecuador, Uru-ay and Venezuela, the volume of refining exceeded installed capacity, which clearly indicates the pres-e exerted on existing installations and the need to expand them. Towards the close of the year, Latin America was installing new capacity equivalent to 23 per cent of that in operation to date; if Venezuela is excluded, this proportion falls to 18 per cent. The plants under construction and existing projects mean that a considerably increased rate of refining may be expected during the next few years.

Because of the additional domestic refining of crude oil from both national and foreign sources, some imports of derivatives were replaced by crude oil, which was cheaper. Thus in 1955 crude oil represented 38 per cent of the total volume of imports of hydro-carbons, as compared with 25 per cent in 1954. (See again table 79.)

The installation or expansion of petroleum cracking plants permitted imports of petrol and other light products to be reduced. This was the case in Colombia, where petrol imports declined by 34 per cent, despite higher consumption. In Argentina, however, imports of derivatives rose more than those of crude oil (through insufficient domestic production of heavy and medium derivatives); in Peru imports of fuel oil trebled, while exports of gas and diesel oil more than doubled, a situation which had obvious economic benefits.

The relationship between the consumption of fuel oil and petrol altered a great deal in favour of the former, thus confirming the growing importance of energy replacement. (See tables 80 and 81.) Consumption for motor vehicles rose less (except in Colombia, Ecuador and Venezuela), although at the same time an increase in the consumption of diesel and gas oil for such vehicles took place.

It is interesting to note that, following the United States pattern, consumption of light derivatives (diesel and gas oil) has for more than twenty years been outstripping that of the heavier product (fuel oil). This is probably a consequence of the trend towards a greater use of diesel locomotives for railway transport and of the larger number of vehicles using gas oil instead of motor spirit.

Table 79. Latin America: Foreign trade in crude oil and derivatives

(Thousands of cubic metres of petroleum equivalent)

	Exports				*Imports*				*Net balance*			
	Crude oil		*Derivatives*		*Crude oil*		*Derivatives*		*Crude oil*		*Derivatives*	
	1954	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*
Latin America	90,320	101,170	23,900	27,300	6,350	10,540	19,500	17,130	83,970	90,630	4,400	10,170
Exporting countries												
Bolivia	10	80	5	20	—	—	25	15	10	80	— 20	5
Colombia	4,820	3,860	35	220	—	—	690	500	4,820	3,860	— 655	— 280
Ecuador	200	240	—	—	30	—	65	95	170	240	— 65	— 95
Mexico	730	840	3,190	3,260	—	—	1,880	2,400	730	840	1,310	860
Peru	370	380	600	640	20	—	120	260	350	380	480	380
Venezuela	84,050	95,770	20,070	23,160	—	—	115	90	84,050	95,770	19,955	23,070
TOTAL	90,180	101,170	23,900	27,300	50	—	2,895	3,360	90,130	101,170	21,005	23,940
TOTAL (EXCL. VENEZUELA)	6,130	5,400	3,830	4,140	50	—	2,780	3,270	6,080	5,400	1,050	870
Importing countries												
Argentina	—	—	—	—	4,350	4,550	2,700	2,800	— 4,350	— 4,550	— 2,780	— 2,800
Brazil	—	—	—	—	160	3,900	8,380	5,610	— 160	— 3,900	— 8,380	— 5,610
Chile	140	—	—	—	60	350	1,720	1,350	80	— 350	— 1,720	— 1,350
Uruguay	—	—	—	—	1,440	...	15	10	— 1,440	...	— 15	— 10
Others	—	—	—	—	290	300	3,710	4,000	— 290	— 300	— 3,710	— 4,000
TOTAL	140	—	—	—	6,300	10,540	16,605	13,770	— 6,160	—10,540	—16,605	—13,770

Source: National statistics.

Table 80. Latin America: Consumption of petroleum derivatives[a]

(Thousands of tons)

Countries	*Fuel oil*		*Diesel and gas oil*		*Kerosene*		*Petrol*		*Total*[b]		*Imports as a percentage of total consumption*
	1954	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*	*1954*	*1955*	*1955*
Latin America	21,070	23,200	5,370	6,120	3,490	3,890	10,920	11,800	45,340	49,850	48.8
Argentina	5,708	5,700	1,354	1,400	863	990	1,666	1,690	10,426	10,600	60.5
Bolivia	103	128	28	29	15	19	68	74	216	252	5.4
Brazil	2,970	3,491	1,207	1,353	517	571	2,611	2,748	7,468	8,357	100.3
Chile	938	1,010	177	218	143	170	367	390	1,647	1,814	83.5
Colombia	616	690	215	267	170	203	753	805	1,800	2,077	21.7
Ecuador	130	135	46	50	22	24	116	131	318	345	24.9
Peru	651	644	205	174	208	233	778	835	1,923	1,965	11.9
Venezuela	2,009	2,718	535	847	353	376	1,081	1,225	6,138	7,592	1.1
Others	7,945	8,404	1,603	1,702	1,199	1,264	3,480	3,682	15,404	16,848	42.2

Source: National statistics.

[a] Each derivative includes those grouped under different names by the various countries.

Table 81. Latin America: Consumption of petroleum derivatives in annual rates of growth

(Percentages)

Countries	Fuel oil			Diesel oil			Kerosene			Petrol			Total		
	1950-53	1954	1955	1950-53	1954	1955	1950-53	1954	1955	1950-53	1954	1955	1950-53	1954	1955
Latin America . . .	...	...	10.1	...	...	14.0	...	...	11.5	...	...	8.1	...	...	9.9
Argentina	2.0	5.8	— 0.1	14.4	12.5	3.4	10.3	8.7	14.7	— 0.3	7.1	1.4	4.0	9.7	1.7
Bolivia	5.2	21.2	24.3	22.6	199.0	3.6	15.9	22.7	26.7	8.7	12.7	10.9	5.9	25.6	16.7
Brazil	10.2	23.3	17.5	22.5	13.6	12.1	19.9	15.4	10.4	14.6	3.1	5.2	14.7	13.8	11.9
Chile	3.6	10.1	7.7	13.2	25.0	23.2	36.8	28.4	18.9	10.1	8.3	6.3	7.7	13.6	10.1
Colombia	11.4	9.8	12.0	26.5	24.8	24.2	32.4	27.2	19.4	17.4	21.5	14.9	17.1	20.4	15.4
Ecuador	5.1	3.7	3.8	13.6	14.0	8.7	10.1	12.8	9.1	8.7	20.7	12.9	7.8	5.7	8.5
Peru	0.7	0.2	— 1.1	13.3	30.5	—15.1	16.9	10.0	12.0	16.1	64.2	7.3	8.0	25.3	2.2
Venezuela	4.1	90.3	35.3	2.2	37.9	58.3	13.1	11.0	6.5	13.8	15.1	13.3	5.7	32.6	23.7

Source: Official data.

Transport of crude oil, derivatives and natural gas continued to be a critical problem for some countries. The severe winter of 1955-56 in Europe led to shipping transport shortages for the Latin American countries and this resulted in higher freight rates. Since most of Latin America's imports of crude are carried by sea and are exported by the major producers of the region[4]—mainly Colombia and Venezuela—it is clear that inter-Latin-American transport should be rendered more independent through the provision of larger tanker fleets.

In addition, existing difficulties in the land transport of petroleum have greatly hampered the production possibilities of some countries, apart from hindering the normal supply of fuels for domestic consumption. Bolivia is geographically well situated for meeting some of the petroleum needs of its importing neighbours, but in addition to larger output, a system of pipelines, the cheapest and safest means of transporting liquid fuels, is required. The Mendoza oilfields, in Argentina, were obliged to limit their output to half a million cubic metres and the Campo Durán fields have not yet entered production for lack of transport. At the Bahia reserves in Brazil, only one-third of the potential productive capacity, or 2,500 cubic metres daily in 1955, could be utilized, and a peak cannot be reached until the 50-kilometre pipeline to the port of Madre de Dios is completed; this pipeline will allow crude oil to be transported to the southern refineries of Brazil.

The additions to Latin America's pipeline network made in 1955—or the continuation of work under construction—represented a substantial contribution to the region's petroleum system in real though not in percentage terms.

In Bolivia, most of the year's investment in the petroleum sector was for pipelines. The largest, which runs from Cochabamba to La Paz (6 inches and 370 kilometres) was begun and completed during 1955, and replaced expensive rail transport. The town of Cochabamba, where the pipeline begins and which has a refinery, is linked with the Camiri field, so that petroleum can reach the Altiplano area. Thence it will be exported to the Pacific through a new pipeline—the building of which has already been agreed upon—to the Chilean port of Arica. At a later stage, the producing fields are to be linked directly with the city of Sicasica (on the Altiplano) by means of a pipeline with a daily capacity of 8,000 cubic metres. To facilitate sales to Argentina, another pipeline (6 inches and 254 kilometres) was begun in 1955, which will link the Camiri fields with the frontier centre of Yacuiba and will be prolonged another 27 kilometres to Aguaray (Salta). The results cannot be very effective yet because it is difficult to ensure transport to the main consuming centres in Argentina.

Colombia—where, as in Bolivia, the topography causes serious transport difficulties—has solved the export problem by means of a trunk pipeline, 538 kilometres long, from the two largest producing centres to Puerto Mamonal (Cartagena) on the Caribbean and by the completion of the Galán-Velázquez line (12 inches and 180 kilometres), which will enable the output of this latter field to be increased. Obstacles to domestic supply have been partly overcome by the opening of the pipeline from Puerto Berrío to Medellín (6 inches and 180 kilometres). Moreover, there are plans to ling Buenaventura with Cali by a pipeline (6 inches and 100 kilometres).

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[4] Of Latin America's imports in 1955, half the crude and 85 per cent of the derivatives came from Latin American countries. The remainder of the derivatives and 15 per cent of the crude were imported from the United States.

The two pipelines built in Ecuador and Peru, both of some 75 kilometres in length, were less important than those in Bolivia and Colombia.

Except in Mexico, there were scarcely any additions to the existing network of natural gas pipelines in 1955. The shortage of tubing for pipelines—which it is hoped to overcome in the near future[5]—has helped to aggravate the deficit in the local supply of hydro-carbons in some countries.

In Mexico, the industry has been obliged to increase overland transport for petroleum products because of the steady expansion of the domestic market. As a result, 1955 witnessed the completion of the pipeline from Poza Rica to Atzcapotzalco (16 inches and 236 kilometres), which raised the pumping capacity from this field to the capital to 24,000 cubic metres daily. Combined with this pipeline is a propane pipeline with a daily capacity of 480 cubic metres. During the year the daily capacity of the Minatitlán-Salina Cruz pipeline was doubled and now stands at 5,000 cubic metres. The policy in Mexico is to expand the pipeline network and, in addition to the construction of new pipelines, it is planned to build new connecting links. Among these is the Tampico-Monterrey line (12 inches and 490 kilometres), which will be used for transporting refined products, and that from Angostura to Veracruz (20 inches and 80 kilometres) to carry crude oil. Both pipelines are designed to transport 4,000 cubic metres daily, but the former can be enlarged to double its capacity. Pipelines to connect Salamanca-Aguascalientes-Zacatecas and Monterrey-Torreón are under construction, while plans include a branch from Reinosa to Monterrey and the extension to Chihuahua the Monterrey-Torreón pipeline.

4. PRODUCTION AND CONSUMPTION OF ELECTRIC ENERG

Increases in electric generating capacity—which wer slightly greater for hydro-electric than for thermic plant (see tables 82 and 83)—and the improvements in th linking up of some zones, led in 1955 to considerabl increased production of this type of energy in Lati America; but even so, all the regional deficits whic existed in 1954 have not yet been eliminated.

Although electric energy production was raised means of increases in the generating capacity, it did no suffice to meet demand and, apart from a few exceptional cases, could not cover accumulated deficits. Th shortages were particularly acute in some of the large urban centres, while supplies in many rural zones showe considerable improvement. It seems probable that, ha an ample supply of electric energy been available, i dustrial output would have grown far beyond the 195 level and substantial economies in fuel or energy cou have been achieved through electrification of overloade sections on some railways. In Mexico, out-of-date an highly uneconomic units for thermal electricity wer taken out of operation (to total of 56,000 kW); the consumption per kWh was double or even three tim that of more modern units. The fact that this could n be done in other countries has meant the retention one more cause of poor utilization of energy and lo efficiency.

Although official attention is increasingly focusse on the utilization of the sources of hydro-electric energ these increased to a very small extent in proportion the total, partly because hydro-electric undertakings wer not completed or there were as yet no transmission line as for instance at Nihuil (Argentina).[6] The situation

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[5] In Argentina, for instance, it is expected to finish what little work is still pending on the gas line from the south to Buenos Aires and the building of another pipeline from the north.

[6] The thermic plant at San Nicolás presents a similar cas because, for lack of transmission lines, it must remain idle f most of the time.

Table 82. Latin America: Electricity production for public service

	Total Millions of kWh		*Percentage of hydraulic power*		*Annual rates of growth Percentages*		
	1954	*1955*	*1954*	*1955*	*1950/53* a	*1954*	*1955*
Latin America	29,550	32,880	62.1	63.5	—	5.6	11.3
Argentina	5,540	5,944	6.0	6.0	3.6	8.1	7.3
Bolivia	215	225	74.4	73.3	6.3	2.8	4.6
Brazil	10,730	12,200	79.5	79.5	8.0	16.9	13.7
Chile	1,695	1,902	83.5	86.3	8.7	9.1	12.2
Colombia	1,630	1,800	69.3	69.4	11.6	13.2	10.4
Costa Rica	218	260	...	...	15.6	3.5	19.2
Cuba	1,032	1,134	—	—	10.0	9.0	9.9
Ecuador	193	212	41.7	43.9	7.9	10.0	10.0
El Salvador	76	92	...	...	6.5	4.1	22.0
Guatemala	185	197	...	...	8.7	4.4	6.4
Honduras	60	62	...	...	5.4	...	3.0
Mexico	5,078	5,652	44	49	9.0	10.5	11.3
Nicaragua	42	49	—	—	17.6	21.0	16.1
Panama	105	114	—	—	5.8	4.6	8.2
Peru	566	615	83.7	84	9.2	10.1	8.6
Venezuela	1,080	1,250	—	—	12.0	13.3	15.7

Source: National statistics.

[a] Cumulative annual rate.

Table 83. Latin America: Installed capacity of electric power plants

(Thousands of kW)

	Public service						*Total (public and private)*	
	Existing		*Percentage of hydro-electric plants*		*Under construct.*			
try	*Dec. 1954*	*Dec. 1955*	*1954*	*1955*	*Total*	*Percentage of hydro-electric plants*	*1954*	*1955*
entina	1,572	1,629	4	6	603	49	2,002	2,069
ivia	107	117	64	70	15	80	107	117
zil	2,647	2,904	78	80	1,132	94	2,806	3,065
le	425	526	71	77	124	96	856	958
ombia	365	420	55[a]	...	270	70	480	520
ta Rica	45	57	84	70	45	74	52	57
a	257[a]	297[a]	3	2	80	—	530	635
minican Republic	60[a]	60[a]	—	—	...	—	60	60
ador	47	48	44	43	18	67	60	63
Salvador	50	50	50	50	15	100	55	55
atemala	41	44	64	66	15	100	40	44
iti	25	25[a]	—	—	...	—	25	25
nduras	19	20	22	25	2	100	15	20
xico	1,400	1,479	44	49	552[b]	91	1,850	1,930
aragua	25	28	—	—	30	—	25	28
nama	29	29	—	—	—	—	30	35
aguay	47	47	—	—	...	...	47	50
u	173	200	84	84	80	100	332	391
uguay	270	270	44	...	137[a]	64	290	290
nezuela	290	335	24	...	315	32	445	500
al Latin America	7,804	8,495	48	51	3,450[c]	73	10,113	10,851
vate foreign capital	4,291	4,527			520			
blic capital	1,916	2,366			2,730			
her capital	1,597	1,602			200			

ource: National statistics.

Estimated.

Only the Federal Electricity Commission. (See note [c] in table 88).

It is estimated that private power plants under construction reached a total of approximately 150 thousand kW at the end of 1955.

untries has not changed, so that thermic energy conued to predominate over hydro-electricity in Argena, Mexico and Venezuela, but not in Brazil, Chile, ru, etc.

But there are some countries where sources of hydroectric energy near densely-populated centres are beming exhausted and others where a large economic tential exists and in several cases, interconnexion has ercome difficulties arising through water shortages or creased consumption (Rio de Janeiro-São Paulo area; ntral zone of Chile).

Inadequate rainfall in some areas of Latin America— r instance, in several Mexican states and parts of São ulo State in Brazil—affected energy supplies by recing the level of water in hydro-electric reservoirs. is factor once again emphasizes the desirability of imoving and stabilizing effective hydro-electric potential regulating water courses, building compensatory resvoirs and interconnecting, as far as possible, zones with ffering rainy or thawing seasons. Little progress was ade in this field during 1955, although plans are being ade to remedy the situation. Exceptions are the internnexion of plants in the central zone of Chile, the inforcement of the links between São Paulo and Rio de neiro in Brazil and the interconnexion of the central stem in Mexico.

As regards the use of hydro-electricity, in spite of ineased production and consumption in absolute terms, percentage share within the total consumption of commercial energy has remained practically unchanged over the last five years. (See again tables 74 and 75.) Prospects are improving, owing to the work under construction, to greater activity in prospecting for hydraulic resources and to the selection of better sites for immediate utilization, although not many complete draft projects exist. Governments are also concentrating more attention on works aimed at the multiple utilization of hydraulic resources. The major event of the year in this sphere took place in Colombia, where the recently-created Comisión Autónoma del Valle del Cauca has just completed the first stage of its programme for the development of the river basin, involving 220,000 kW of energy by 1962 and 290,000 hectares under irrigation. At the same time, work continued in Mexico in the valleys of Papaloapán and Tepalcatepec. In Peru, renewal of work in the Río Santa revives the possibility of this region's integral development in the near future.

Apart from the common difficulties described, each country has its own peculiar electricity problems. In Argentina, for example, the pronounced shortage which had been apparent for some years continued in 1955. Unsatisfied demand is particularly acute in Greater Buenos Aires, where consumption represents 70 per cent of the national total. The deficit in this zone, estimated at 300,000 kW, over and above the existing 840,000 kW, has led to the introduction of severe restrictions and no new connexions are authorized.

The supply of electric energy in Bolivia improved in the capital, where the company holding the concession brought into operation units for slightly over 8,000 kW to supplement existing hydro-electric sources. Additions elsewhere in the country were of very little significance.

The serious problem of the lack of electricity in Brazil during 1954 was partly solved in 1955; rationing was temporarily lifted in Rio de Janeiro and to a lesser degree and more irregularly in São Paulo, despite increased consumption.[7]

Chile's electricity supplies improved in 1955 with the inauguration of the interconnexion system in the central zone and the entry into operation of the new hydro-electric power plant at "Los Cipreses", which has a capacity to 104,000 kW.[8] The Government of Chile, because of delays in the programme for expanding installed capacity, decided to continue the rationing of electricity consumption in the central provinces during the winter of 1956 along lines similar to those followed since 1953, with a view to controlling the growth of demand until such time as it can be fully covered.

Colombia made some progress in reducing the acute shortages of electric energy in industrial zones and in extending the supply to new areas and municipalities. However, some of the large towns (Bogotá, Cali, Medellín), were still in a difficult position.

In Mexico, the aggregate electricity supply in 1955 exceeded the high rates of growth of previous years. Even so, owing to a fall in the water level of the hydro-electric reservoirs, serious problems arose in connexion with the supply of electricity to the States of Jalisco, Michoacán, Guanajuato, Querétaro and San Luis Potosí. The rate of increase in installed capacity (7.3 per cent if equipment withdrawn from service is included) wa lower than during the previous five-year period (9. per cent annually), because certain large projects wer completed in 1950-52.

Whereas energy shortages persisted in Ecuador, Gua temala and Honduras during 1955, electricity productio in Uruguay and Venezuela kept pace with demand.

5. THE SUBSTITUTION PROCESS WITHIN THE ENERGY SECTOR

Stationary coal consumption and a slight decline i the demand for vegetable fuels are indications that thes forms of energy are being displaced, particularly by fue oil and natural gas. This substitution is caused not onl by technical advantages—which are particularly obviou for railways and in the thermic generation of electricit —but also by the fact that price policies usually favou hydro-carbons.

The replacement of coal in certain activities by natur gas or fuel oil is evidenced in that its use in Latin America has declined in percentage and, at times, in absolut terms. Aggregate consumption rose by only 25 per cen from 1954 to 1955. (See table 84.) With the exceptio of Colombia, where the production level rose by 20 pe cent over 1954, the situation in all the other countrie remained practically unchanged; the increase amounte only to 2.5 per cent, which reveals a general stagnatio Imports as a rule declined, and in some cases sharpl as in Argentina. One of the few exceptions was Brazi where imports rose by nearly 25 per cent, largely becaus of the expansion of steel making.

Table 84. Latin America: Coal situation[a]

(Thousands of tons)

	Production		*Consumption*		*Rates of growth of consumption*			*Percentage imported*		
	1954	*1955*	*1954*	*1955*	*1950-1953*	*1953-1954*	*1954-1955*	*1950-1953*	*1954*	*195*
Latin America[b]	6,817	7,249	9,560	9,750	1.0	3.0	2.0	30	29.7	26
Argentina	107	151	1,678	1,641	—1.3	0	—2.3	98	89	90
Brazil	1,439	1,478	2,247	2,485	—5.8	3.1	10.6	47	42	47
Chile	2,267	2,308	2,501	2,513	4.3	—1.4	0.5	6.7	10.1	9
Colombia	1,500	1,800	1,500	1,800	6.8	21.8	20.0	—	—	—
Mexico	1,314	1,343	1,366	1,384	17.2	—8.4	1.3	2	4.9	3
Peru	158	139	139	139	3.4	17.0	0	—	—	—
Uruguay	—	—	85	90	—8.0	2.0	5.9	100	100	100
Venezuela	32	30	33	31	5.0	9.3	—6.0	3	2	2

Source: National statistics.

[a] Coke is included in imports.

[b] Imports of other countries not specifically listed are included.

Production in several countries remained stationary, reflecting the serious setbacks encountered by the coal industry. Among the obstacles common to many countries were the absence of mechanization, transport and washing plants, while difficult conditions at the mine faces and the dispersal of operations over a large number of small workings also hindered output. To overcome the problems, substantial investments in th different items would have been necessary and, if the had been made, would have helped to reduce the hig market price of coal.

The development of Latin America's heavy industr is becoming a focal point for coal mining. Almost 1 million tons of coal were consumed in 1955, of whic no less than 1.5 million tons (or over 15 per cent of th consumption during that year) were used for metallu gical coke, mainly for the steel and rolling mills. I Brazil, for instance, coal consumption for metallurgic poses represents nearly 20 per cent of all coal con- nption; in Chile, 16 per cent; and in Mexico, 35 per t. In addition, over half a million tons of charcoal e also used for steel making, mainly in Argentina l Brazil, and this figure is rising.

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[7] Notwithstanding the considerable increase in capacity achieved, it is estimated that early in 1956 there was still a large deficit which will be partly covered by the plants currently being constructed.

[8] For details of this plant, see p. 93.

he downward trend in vegetable fuel consumption, ticularly since the war, has already been mentioned. quantitative assessment can be given for most of the in American countries because statistics are not ilable; but in both Argentina and Brazil the decrease ounted to 2 per cent during the period 1954-55, and ected the natural trend towards modernizing fuel- ning equipment. Nevertheless, the remoteness of the rces of supply, together with transport difficulties, ich result in relatively higher prices for vegetable ls in centres far from the source, has meant that their often declines with greater rapidity than would have n desirable from the economic standpoint. In fact, decrease has had to be compensated with petroleum ivatives which are frequently imported, thus causing ious balance-of-payments difficulties in some countries.

t is interesting to note the higher consumption of ural gas, particularly in Argentina, Mexico and Vene- la, not only at the oilfields and the refineries in their inity, but also in industrial and urban centres. In 5, the residential use of natural gas rose by 3 per t in Argentina and 7 per cent in Venezuela. More- r, there is a growing rapid increase in the use of uid gases derived from petroleum, which are more ily transported in containers in many towns which viously lacked such facilities.

Residential consumption of refinery gas—either liquid, mixing with coal gas, or the original gas—increased ing 1955 in proportions of 62 per cent in Brazil, 43 cent in Colombia and 12 per cent in Peru. Particu- ly noteworthy was the strong impetus given to such nsumption in Argentina, Brazil and Colombia. Simi- ly, in Chile there are plans to construct a pipeline from Concón refinery to Valparaiso and Santiago to sup- ment the supplies from existing sources; some of the will be sold in containers. In Argentina and Uru- y all refinery surpluses are at present employed and utilization of gas transported in containers is wide- ead.

Some consideration may be given to the reasons why roleum derivatives are so rapidly replacing coal and etable fuels. The technical superiority of hydro- bons over solid fuels is well known; they are easier supply and handle as well as more efficient and eco- nical in use. There are also specific technological ad- ntages of a different kind, which only become evident ough the use of hydro-carbons, as in the case of esel locomotives, whose suitability for haulage pur- ses contributes greatly to fuel economies. Price rela- ns between the different fuels, which usually favour roleum derivatives, emphasized the trend; so did the re reliable guarantees of a regular supply to the con- ner.

The rapidly increasing substitution of Diesel units for am engines, together with the more intensive utiliza- n of the former and the partial transformation of coal wood furnaces to fuel oil burners, is contributing re and more to the predominance of petroleum con- nption. Data available for several countries show that coal and wood consumption in 1955 declined or remained stationary on the railways. On the other hand, the increase in thermic generation of electricity—which may perhaps have been effected almost entirely through the greater use of fuel, Diesel oil and, at times, natural gas—helped to raise the level of demand for these petroleum derivatives. Moreover, the growing consumption of natural or liquid gas from refineries limits the use of coal for producing gas and even threatens to eliminate it.

Price policy is a weighty factor in the above examples of transport and electricity production, but it is not decisive for industry in general because of the relatively small incidence of the price of energy upon the cost of the product.

There is no constant ratio in Latin America between coal and fuel-oil prices, when both are expressed as equivalents of potential energy; generally speaking, however, the latter is much cheaper than coal, just as it is in the United States.

In addition, there were very unequal variations in the prices of the various forms of energy during 1955. The changes were not even uniform within any one given country and were rarely adjusted to variations in the cost-of-living index. Although, broadly speaking, increases in fuel-oil prices were slight, this was not the case with medium derivatives (Diesel and gas oil) where very high percentage rates were attained. The abnormal price ratios which had existed between these fuels and had led to an undesirable trend in consumption, were corrected by these adjustments.[9]

The disparity in relative prices was on occasions due to a policy of indirect government subsidies or bonuses to petroleum producers or consumers, granted through preferential exchange rates for imports of crude oil and petroleum derivatives. The rates so fixed are usually lower than the average rate applied to imports. Hence these fuels in fact receive a subsidy and their consumption is encouraged, so that in some cases they are in an advantageous position in relation to domestic fuels, particularly coal. Had this preferential rate not been applied, fuel prices would have been considerably higher. Argentina, where the exchange rate which had governed imported fuels was eliminated and the uniform official rate was applied to them, provides evidence of this fact.

6. PETROLEUM AND THE EXCHANGE BUDGET

The growing increase in petroleum consumption has led to difficulties in those countries where it has been unaccompanied by a corresponding rise in domestic production. As a rule, supply has kept pace with demand, but not without some sacrifices in countries such as Argentina, Brazil and Chile. Fuel imports in these three countries have expanded much faster than the capacity to import, thus exerting considerable pressure on the balance of payments. Moreover, fuel purchases have been made at the expense of capital goods imports essential for accelerating economic development. During 1955, Latin America's fuel imports (736 million dollars) amounted to 10.2 per cent of all purchases abroad, whereas the corresponding proportion was 9.2 per cent in 1951-54. (See table 85.)

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[9] In the early months of 1956, adjustments of this type took place in Argentina, Brazil, Chile and Ecuador.

Table 85. Latin America: Incidence of fuels on the value of all imports in selected countries

(Percentages)

Years	*Argentina*	*Brazil*	*Chile*	*Cuba*	*Uruguay*	*Total Latin America*
1934-38	8.3	12.4	7.9	5.9	4.8	—
1946-50	11.6	10.5	10.1	5.0	7.3	—
1951-53	19.6	12.8	11.2	7.3	10.4	9.2
1954	18	18.7	15.5	10.8	13.0	9.3
1955	13.4[a]	21.7	15.4	12.9	13.0[b]	10.2

Source: National statistics.

[a] The decline was due to the substantial increase in all Argentine imports, since the value of fuel imports remained constant.

[b] Estimated.

Although these aggregate figures provide some general idea of the magnitude of the problem, they are insufficient to show what effect the measures adopted to solve it will have. For this purpose some individual cases should be studied in more detail. The considerable increase in refining capacity achieved in Latin America has favourably influenced exchange savings. Even though the refineries have to use imported crude oil, their operation saves any given country a considerable sum of foreign exchange; this saving is naturally greater when the complete cycle—from the extraction of crude oil to the production of derivatives—takes place within the national territory.

Brazil and Chile provide good illustrations of the effects of domestic refining and production of petroleum. In Brazil, the three plants which were in operation in 1955—Presidente Bernardes, Capuava and Marguinhos—refined 3.5 million cubic metres of crude oil in the year, with a value of 70.5 million dollars. It would have cost 87.2 million dollars to import the derivatives made from this crude oil. Gross savings in exchange were thus 16.7 million dollars. Since the external commitments involved in the building of these refineries amounted to 60 million dollars—that is, two-thirds of the total investment—they can be amortized in three or four years simply through the foreign exchange saved.

A further case in point is that of Chile. Production at the Concón refinery required the investment of 10.5 million dollars and led, in 1955, to exchange savings of approximately 3 million dollars.

Domestic production of crude petroleum naturally increases the economy in foreign exchange. In 1955, the extraction of 321,000 cubic metres in Brazil and 410,000 cubic metres in Chile represented decreases in foreign currency expenditure of 6 and 8 million dollars, respectively. When these figures are compared with the exchange saving effected through refining, it may be seen that crude production has led to an economy almost four times greater than that obtained by refining the same volume of imported petroleum.

7. THE EVOLUTION AND FINANCING OF ENERGY INVESTMENT

The capital invested in Latin America during 1955 to raise energy production constituted a large share of total investment in the region; it was also comparable to such investment during the immediately preceding years. If all activities related to electricity and fuels are taken into account, even those which only represent exports, as in the case of most of Venezuela's petroleum, a figure of approximately 1.2 billion dollars for gross investment in 1955 is reached. This is nearly 14 per cent of the estimated 8.7 billion dollars invested in Latin America's economy during the same year. Of the investment in energy, approximately half corresponded to public resources and the other half to private capital, mostly of foreign origin. Their relative shares varied according to the branch concerned; for instance, official public enterprise represented 75 per cent in electricity and 29 per cent in petroleum. By subtracting from total petroleum investment the amount required to produce petroleum exports—which corresponds mainly to Venezuela—the investments that were needed to ensure supplies for the region can be established. (See table 86.) The result is 875 million dollars, or 10 per cent of total gross investment. This representative percentage should be regarded as approaching that required to maintain the rate of energy supply in Latin America. In point of fact, countries such as Chile and Mexico, with active national electrification programmes and development projects for their fuel reserves, have in recent years devoted 10 to 12 per cent of their domestic capital formation to energy purposes.

Table 86. Latin America: Total investment in energy for domestic supply, 1955[a]

(Millions of dollars)

	Public	*Foreign private*	*Others*[b]	*Total*	*Percentages*
Electricity:					
Public service..	365	100	20	485	56
Private facilities	—	20	10	30	3
Petroleum	200	145	5	350	40
Coal	5	—	5	10	1
TOTALS	570	265	40	875	
Percentages	65	30	5	—	100

Source: National data.

[a] If that share of investment in petroleum which was used for exports outside Latin America is included, the amount corresponding to foreign private enterprise in petroleum rises from 145 to 485 million dollars. The total for petroleum would thus increase from 350 to 690 millions and the grand total of 875 million would rise to 1,215 million dollars.

[b] Represents local private capital and small municipalities.

Needless to say, investments in the larger countries nsiderably influence the regional total. Since invest- nt was relatively low in Argentina during 1955 and o fell off somewhat in Brazil because large electrical ojects had been completed, the percentage for the rest Latin America may perhaps be a little higher. On the sis of these approximate global figures, it seems clear t the regional effort in the field of energy is propor- nate to the available means. But this does not neces- ily mean that all problems have been solved, particu- ly in the large urban areas where great pressure was l exerted by demand.

The composition of gross annual investment in energy r domestic consumption reveals that nearly two-thirds 570 million dollars—represents the operations of large dies established in several countries to organize the stematic development of national energy supplies, and anced by public funds. The electricity sector, because tariffs do not follow the rise in the cost of living, has ually been the least attractive to private capital; as a sult it has been the primary object of official efforts, d received 64 per cent of total public investment in ergy in 1955. The 570 million dollars involved consti- ted 22 per cent of gross annual public investment in e economy of the region as a whole, which was esti- ated at 2.5 billion dollars. This reflects the greater rela- e importance attached to energy by the public sector, nce, as indicated above, the private capital thus in- sted absorbed only 10 per cent of aggregate national vestment.

Almost half the capital formation by foreign private vestors corresponds to United States and Canadian mpanies which hold concessions for the electricity sup- y in many capitals and large towns; the remainder accounted for by foreign corporations which serve cal markets with domestically produced or imported troleum.

Electricity companies obtained more credit for their evelopment than during 1954, in both foreign and local rrencies.

International official loans granted for energy in Latin merica during 1955 amounted to 17.5 million dollars om the International Bank for Reconstruction and De- elopment and 26.6 millions from the Export-Import ank. The combined credit exceeded by 16 per cent that ranted by these institutions in 1954, but there was some ariation in their respective contributions: in 1955 the nternational Bank provided only half as much capital s in the previous year; conversely, the Export-Import ank had loaned only 750,000 dollars in 1954.

The International Bank conceded a loan of 4.5 million ollars to the autonomous enterprise which was estab- shed with public funds to supply electricity to Cali Colombia). This sum is to be devoted to expanding by 0,000 kW the Achicayá plant—for whose first 24,000 W, recently inaugurated, the same Bank provided credit —and to the installation of a 12,500-kW thermal plant t Yumbo, which will operate with domestic coal. A urther 5.5 millions were granted to Usinas y Teléfonos el Estado, in Uruguay, for a third 50,000-kW unit in e thermo-electric plant at Montevideo, the second unit f which had also been installed with the aid of the bank. inally, 7.5 million dollars were loaned to Nicaragua for a new 30,000-kW power station and its distribution network in the Managua zone. These loans brought the total authorized by the International Bank for Reconstruction and Development for the expansion of Latin America's electric energy to 307 million dollars, or approximately 46 per cent of the total granted throughout the world for electricity, and 49 per cent of the aggregate loans assigned to Latin America.

Export-Import Bank credits for energy included 2.5 million dollars for the power station in Nicaragua mentioned above, and 1 million to the Instituto Costarricense de Electricidad for the purchase of generating equipment based on Diesel engines. The remaining 23 millions were used for the expansion programmes of Mexican power companies financed by foreign funds. This Bank's total outstanding loans to Latin America for electricity supplies amounted at the beginning of 1956 to 160 million dollars, or 10 per cent of all its loans to the region.

Among the operations of those national institutions which grant credit from public funds for the development of electricity supplies, the work of the Banco do Desenvolvimento Economico of Brazil was important. Although the aggregate credit granted by this bank fell considerably in 1954-55, loans for electric energy rose by 44 per cent and amounted to 1.57 billion cruzeiros (approximately 34 million dollars),[10] which absorbed 46 per cent of the bank's loan capital. This financing has benefited private enterprise, both national and foreign, as well as para-Statal organizations.

The Nacional Financiera in Mexico also finances light and power companies formed with official and private capital and almost 16 per cent of its loans and investment was used for this purpose.

In Chile, the national electricity enterprise has been financed through the Corporación de Fomento, which has channelled all its financial aid to the sector in question through this body. Such contributions have recently been restricted through the shortage of official funds.

In Cuba, the Nacional Financiera has provided funds for energy development, among which is a long-term loan for 8 million dollars to the foreign concessionnaire of the public service in Havana. Loans from the Banco Industrial in Argentina to a value of 350 million pesos were earmarked to help two power companies.

8. INVESTMENT IN ELECTRICITY AND PETROLEUM

It is interesting to evaluate relative contributions to the different undertakings in the sector of public electricity enterprises, where investment in 1955 was estimated at 470 million dollars. This sum corresponds to work which led to the installation during the year of a generating capacity of 690,000 kW and which, at the end of 1955, had 3.6 million kW in course of installation, for completion over the subsequent three or four years.

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[10] For the conversion of this sum, representing only local expenditure, a rate of exchange has been used which approximately represents the real par value of the foreign exchange. Other equivalents of investment will be found at a later stage, which include expenditure in foreign currencies that have usually been converted at the official rate.

The future programme, which represents the creation of almost 1 million additional kW annually, would increase the present capacity of 8.6 million kW at an annual rate exceeding 10 per cent. This is undoubtedly a good average for Latin America. If sustained for several years, it would raise the level of electricity consumption substantially, certainly above that observed during the period 1946-55, when the average rate of growth of electricity capacity for public use was 7 per cent annually.

From another angle, some 75 per cent of the total completed and under construction at the end of 1955 was the work of organizations financed with large public, state or municipal funds, which at present only account for 28 per cent (2.4 million kW) of the total installed to date. (See table 87.) These figures indicate the relatively rapid rate of development of such enterprises, which had only some 300,000 kW in operation in three countries (Chile, Mexico and Uruguay) ten years ago.

Table 87. Latin America: Electricity enterprises financed mainly from public funds[a]

		Generating capacity			
		(In thousands of kW, at end of year)			
		In operation			*Under construction*
Country	*Enterprise*	*1953*	*1954*	*1955*	*1955*
Argentina	Aguas y Energía Eléctrica	150[b]	191	248	603
	Provincial governments	78[b]	78	78	20[b]
Brazil	Cia. Hidr. São Francisco	—	120	180	180
	Cia. Hidr. Río Pardo (São Paulo)	—	—	—	126
	Cia. do Paranapanema (São Paulo)	—	—	—	68
	Centrais Elect. Minas Gerais	14	35	83	126
	State Government, Río Grande do Sul	51	51	54	30
	State Government, Espiritu Santo	—	—	—	103
	State Government, Bahia	—	—	—	20
	State Government, Rio de Janeiro	—	—	13	16
	Others	—	—	—	20
Chile	Empresa nacional de Electricidad	207	207	310	125
Colombia	Various[c]	230[b]	250	280	250
Costa Rica	Inst. Cos. Ric. de Electr.	5	8	10	42
	Empresa Municipal de Quito	12	12	12	3
Ecuador	Others	—	—	—	10[d]
El Salvador	Com. Hidr. Río Lempa	—	30	30	15
Mexico	Com. Fed. de Electr.	375	479	604	552
	Nueva Cía. Elec. Chapala	108	108	108	—
Nicaragua	Emp. Nac. de Luz y Fuerza	7	7	10	30
Peru	Corp. Peruana del Santa	—	—	—	50
Uruguay	Usinas y Telf. del Estado	246	296	296	137[b]
Venezuela	Corp. Venezolana de Fomento	60	88	93	95
	Río Caroni project	—	—	—	100
	TOTAL	1,538	1,960	2,409	2,730

Source: Official data.

[a] Including enterprises in which public funds have provided most of the capital either through autonomous agencies or national, provincial, state or municipal governments. Of the latter only those of some importance for the whole of the country are included, small municipal plants operated directly or through concessionaires in small communities not being taken into account.

[b] Estimates.

[c] Instituto Nacional de Aguas y Fomento Eléctrico and large municipal enterprises, such as those of Bogotá, Medellín, etc.

[d] Includes the 5,000-kW project at Riobamba.

The investment placed by these organizations is directed mainly to the production of electricity, which is transferred in high-tension form to third parties who act as distributors. In this way it is hoped to establish a supply which will encourage the collaboration of private capital. This policy has yielded some results in Chile and Mexico. Nevertheless, it is sometimes becoming necessary—even in those countries—for official bodies to help to finance the distribution companies, or to take over the actual distribution activities to ensure that services will be available in new areas or that very large projects will receive adequate attention.

During 1955, the major responsibility for financing energy investment in Argentina was left to the State. In consequence, the building of all new power plants is entrusted to Aguas y Energía Eléctrica, a national agency whose operations have not yet attained large proportions. In fact, during 1955 only a little over 50,000 kW entered operation, completing an installed capacity of 250,000 kW, or scarcely 12 per cent of the national total.[11]

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[11] In January 1956 some 600,000 kW were being installed. It is planned to invest the equivalent of some 63 million dollars in these plants, a figure similar to the 65 and 59 million dollars invested in 1954 and 1955, respectively. Apart from a large thermo-electric plant for the immediate relief of Greater Buenos Aires, Aguas y Energía Eléctrica is studying the development of major hydro-electric projects. Because hydro-electric energy sources are so far from the consuming centres, it can usually only be exploited in units large enough to ensure that it is economically worth while to install the necessary transmission lines.

Until the national agency provided for in the electrifi-
on plan is established in Brazil, autonomous regional
ies are responsible for any public investment in the
tor. Some of these bodies exploit one specific resource,
in the case of the São Francisco river, where 60,000
were inaugurated in 1955, or of the Pardo river in
Paulo State, where the project concerned is under
struction. Other new plants are State undertakings,
Minas Gerais, Rio Grande do Sul, Espiritu Santo,
ia, etc., where a combined total of 420,000 kW was
ng installed at the end of the year.

During 1955, the Empresa Nacional de Electricidad
Chile put into operation a hydro-electric plant of
4,000 kW in the country's central zone, thus com-
ting 310,000 kW (56 per cent of the total capacity
public service). The same company also inaugurated
large transmission system linking Santiago with a
wer plant located 533 kilometres to the south; this
ans that complementary water systems in the central
d southern parts of the country can be combined and
t the system's older plants can be repaired without
erruption of the service.

During 1955, the Instituto de Aguas y Fomento Eléc-
co in Colombia opened one of its first large projects.
is was the initial stage of the Central Hidroeléctrica
Achicayá, of 24,000 kW, which will reduce the serious
ortage in the city of Cali and has to date represented
investment approaching 18 million dollars.[12]

In Mexico, the Comisión Federal de Electricidad placed
vestments in 1955 representing the major share of a
tional total for energy of 599 million pesos (44.7
llion dollars). This was 35 per cent more than peso
vestments in the previous year (in nominal terms), and
lped the complete 135,000 kW during 1955, leaving
other 550,000 kW under construction. The central grid
s connected with the Bajío area and the new Michoa-
n plant was linked to Guanajuato and Chapala.

In Peru, the first stage in providing an output of
,000 kW at the hydroelectric plant of Cañon del Pato
nearing completion. This plant is being constructed by
e Corporación del Santa in the river valley of the same
me. It will have a total capacity of 150,000 kW and
intended to encourage general economic development
the area. In particular it will supply the energy for
e electric furnaces being installed locally. To complete
e building of this power plant—which was interrupted
ter an avalanche had destroyed some of the installa-
ons—the Corporation has received a 15-million-dollar
an from a private European bank.

Usinas y Teléfonos del Estado, which is exclusively
sponsible for the electricity supply in Uruguay, did not
augurate any new production facilities in 1955, but
ntinued its over-all programme. This includes the im-
ediate addition of 50,000 kW at the Montevideo thermic
ant and the building of a second large hydro-electric
ant on the Negro river.

The Corporación Venezolana de Fomento is also carrying out a national electrification programme, in which it invested some 4 million dollars during 1955. Only 4,800 kW were put into operation, but at the end of the year 95,000 kW were under construction and tenders for the installation of another 140,000 kW had been sent out. The first 100,000 kW of the hydro-electric plant on the Caroni river are also being established with public funds. This is the first large plant of its kind in the Corporation's programme, which, for obvious reasons, is fundamentally based on petroleum plants, and will serve to encourage industries, especially those manufacturing steel and chemicals.

Substantial public investment in electricity in Central America included that provided at the national level by the Instituto Costarricense de Electricidad, and capital which permitted the utilization of the River Lempa in El Salvador.

Plants financed by foreign capital constitute another important nucleus of light and power companies in Latin America. They combine to produce 4.6 million kW, that is, 53 per cent of the total for public use in the region, but in 1955 they contributed only 21 per cent of investment under this head. (See table 88.) Except in Argentina, these foreign companies have benefited from official policy and have announced development plans that will apparently be carried out within the near future.

The largest of these enterprises operates in the Rio de Janeiro-São Paulo area of Brazil, and is completing a large expansion programme to raise capacity by nearly 800,000 kW between 1953 and 1956. Next follows a United States company with plants in eleven Latin American countries; since 1945 it had invested over 380 million dollars in the installation of 475,000 kW, and it has now announced a 450-million-dollar programme for the production of an additional 800,000 kW over the next five years. This project does not include three small plants of 10,000 kW each, based on atomic energy, which are being built as an experiment; however, no final decision has yet been reached as to the countries where they will be installed.

The Canadian company operating in Mexico which provides some 25 per cent of the total public service capacity (490,000 kW) has drawn up a vast plan for expansion during the next ten years, for a value of 6 billion pesos (approximately 480 million dollars).

Finally, the foreign company established in Bolivia is providing almost the only relief of the critical situation of the country's electricity supply, since most of the financial resources available for energy had to be devoted to the development of petroleum production.

The remaining investment in electricity plants in Latin America—4 per cent of the total—was made by domestic capital and the small municipalities. Despite the financing difficulties besetting this type of enterprise, the effort in relative terms was not insignificant, since 1.6 million kW had been installed by the end of 1955 and work in progress was equivalent to 12 per cent of this capacity. Examples of the action of private domestic capital may be found in several large towns in Brazil, Chile, Mexico, Venezuela, etc. Perhaps the biggest plant of this kind is in Venezuela; it serves Caracas and continues to keep abreast of the capital's growing demand. Over the last

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[12] Subsidiaries of the Institute controlled two-thirds of the
lants under construction at the beginning of 1956, which totalled
me 270,000 kW. Approximately 30 per cent corresponded to
ermo-electric plants which have been planned not only to
se coal from the Boyacá and El Valle areas, but to promote the
evelopment of production of this fuel, to which interesting future
ossibilities are attributed.

Table 88. Latin America: Electricity companies financed by foreign private funds

(Thousands of kW at end of year)

Country	Company	Generating capacity: In operation 1953	In operation 1954	In operation 1955	Under construction 1955
Argentina	Various[a]	1,020	1,035[b]	1,051	—
Bolivia	Bolivian Power Co.	35	35	46	10
Brazil	Brazilian Traction, Light and Power	1,017	1,493	1,623	260
Mexico	The Mexican Light and Power Co.	445	490	490	150[c]
Peru	Lima Light and Power Co.	115	115	136	30
Various	American and Foreign Power Co.[d]	1,076	1,170	1,228	220[b]
	TOTAL	3,708	4,338	4,574	670[d]

Source: National information.

[a] Includes the following groups of companies: CADE, Italo, Soc. de Electr. de Rosario (transferred to ENDE at the beginning of 1956), SUDAM y Cía., Suizo-Argentina de Electricidad, which in 1955 had, respectively, 657,000; 252,000; 112,000; 18,000; and 11,000 kW of the total indicated for that year.

[b] Estimates.

[c] This total does not reveal the true rate of construction by these financial groups. On the one hand, it may be seen that the Brazilian company is completing a large programme entailing the addition of over 800,000 kW since 1953. On the other, the American and Foreign Power Company has recently begun substantial new plans to put into service a further 800,000 kW in the countries where it operates, over a period of only five years. Moreover, projects are well advanced for major additions by the concessionaires in Greater Buenos Aires included in the table; and the power company in Lima began hydraulic works at the beginning of 1956 for a 30,000-kW plant. The Mexican company has also announced a programme for the investment of 6 billion pesos (approximately 480 million dollars) during the next ten years. In view of this development and of the investments placed in 1955, this company was credited with the estimated figure shown in the table of 150,000 kW, construction of which was under way or about to begin at the end of the year.

[d] This company, which belongs to the Electric Bond and Share Co. in the United States, has plants in eleven Latin American countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico, Panama and Venezuela).

five years this plant has installed an additional 130,000 kW, and the production of a further 120,000 kW is about to be undertaken.

Private domestic capital also plays a part, although on a minor scale, in many enterprises financed mainly with public funds, in those with autonomous administration and even in foreign private enterprises, through the stock market. This last system has been successful in Brazil, where private investors have added the equivalent of 20 million dollars since 1949, and in Cuba, where the United States company itself has sold bonds to the public for a total of 6 million dollars. This development is significant because it has gradually aroused public interest in the financing of this branch of the economy.

During 1955, gross investment in the region's petroleum industry amounted to some 685 million dollars; 29 per cent was derived from public funds and the remainder from foreign private capital. Only some 350 million dollars were invested in supplies for Latin America. Public investment absorbed 57 per cent of this new total, and was used for oilfields in Argentina, Bolivia, Brazil, Chile and Mexico, as well as some deposits in Colombia. As a rule these fields had sufficient capital for their most urgent needs, which differed in the various countries. In Argentina and Bolivia, for instance, preference is being given to means of transport, which will allow higher output from reserves already located, some of which are being exploited. On the other hand, Brazil is faced by much difficult prospection work, and in consequence, attention was concentrated on the more direct and immediate economic advantages of refining. Chile is consistently developing all phases of the industry and is intensifying the exploitation of its deposits. The State enterprise in Colombia has been obliged to offset the decline of reserves and is concerned with expanding new deposits. Broadly speaking, most of the investment in 1954-55 was placed in refineries, except in Bolivia.

Private petroleum companies also found conditions more propitious to investment in Latin America. Except for Argentina and Brazil, the producing countries strengthened their policy of increasing the participation of the private companies or studied ways and means of doing so. The principal incentive, however, appears to lie in the nature of the petroleum resources; Venezuela, where such resources are extremely rich, receives more and more foreign capital, while other countries—Colombia, Ecuador and Peru, for example—are unable to achieve a substantial increase in production, although they offer greater legal and fiscal inducements.

The influence of the nature of the resources is evident from the results of the various efforts to expand production, both in countries like Argentina, Bolivia, Brazil, Chile and Mexico, where the State holds the monopoly, and in those where private capital plays a part, as it does in Colombia, Cuba, Ecuador, Peru and Venezuela.

Prospection by Argentine experts has located a large potential source in the north of the country, near the Bolivian frontier, and this discovery has been confirmed a United Nations Technical Assistance Mission. By 8, its utilization will considerably reduce the coun- s dependence upon imports of crude oil. The problem olved is not so much one of investment for pro- tion—which will nevertheless be large—as of the ance to be covered by the pipelines between the osits and consuming centres. At present, special new ns are being studied for the financing of this ex- tionally heavy investment, which will exceed 150 lion dollars. The magnitude of the financing problem best be assessed by recalling that 47 and 45 million lars were invested in petroleum during 1954 and 1955, pectively.

n 1953, the State enterprise in Bolivia discovered a v oil dome with a high potential at the old Camiri ds, and production has thus been raised sufficiently leave an exportable surplus.[13] The Government, en- raged by this development, has passed a law enabling t part of the area where the State agency does not rate to be exploited by private capital. In early 1955, arge United States oil company had already announced ns to invest 40 million dollars.

The Petrobras company in Brazil did not neglect the blem of crude output,[14] but its efforts were inade- ate to find a solution. Moreover, substantial capital, ich was not available, would have been necessary to et the country's requirements. The discovery of the va Olinda field, near Manaos, in early 1955 may prove portant, although to date drillings have proceeded re slowly than was expected and production has not t begun.

Investment in Colombia's petroleum industry has re- ained constant over the past few years, and has had cope with the still considerable difficulty of expand- g the resources under exploitation. Despite relatively tensive prospecting, it has not yet been possible to unteract the downturn in production at the two prin- bal oilfields. The deposits known as the Concesión de ares are worked by a State agency formed in 1951 en the concession reverted to the Government; as this a very big field, the country is confronted with a major ancing problem. To raise investment, the enterprise s sought the collaboration of private capital and has gned an agreement with a United States company for illing in the Carare area, within the concession, which ay represent an investment of 7.5 million dollars in ve years.

Good results were obtained in Mexico from the greater forts to develop crude-oil production. The drilling of 30 additional wells (10 per cent more than in 1954) ised output by 12.4 per cent and increased proven serves by more than 200 million barrels annually. At e Poza Rica field, a new water-injection system was mpleted, as well as the expansion of the gas re-injection lant and a unit to double the volume of gas processed. hese operations represented an aggregate investment of 46.5 million pesos (19.7 million dollars, approximately).

The Empresa Nacional del Petróleo in Chile knows e extent of the reserves in the oilfields it has been working for some years in Tierra del Fuego, although prospecting has still to be undertaken elsewhere in the country. Programmes are being carried out which have already resulted in an upswing of production during the past three years. It is expected that by 1960 all domestic needs will be met, excluding those of the export mining companies. This presupposes a production increase at an annual rate of 35 per cent. The necessary capital will be obtained from the exchange saved by substituting domestic output of crude oil and derivatives for imports.[15]

Since official resources are insufficient for the intensive development of Chile's petroleum potential, consideration is being given to methods of authorizing the exploitation of oil reserves by third parties in areas not worked by the Empresa Nacional de Petróleo.

As already noted, the results obtained in countries where foreign private capital operates have varied widely. In Colombia such capital accounts for 72 per cent of the annual extraction figure and is rapidly raising its share of investment. Legislation and official policy have always favoured the expansion of such enterprise, and during 1955 this attitude was confirmed by new and more specific regulations, as well as by the allowance of a larger deduction from net taxable profits for exhaustion of the wells.

Drillings in Ecuador were unable to improve the quality of known deposits, although prospecting has been extended to many parts of the country in the past few years. In Peru, despite much drilling, no satisfactory results have yet been achieved in the Sechura district, which was opened to private concessions only two years ago.

In Venezuela, however, production moved steadily upwards. Investment exceeded the level of the previous year and will probably be greater still in 1956, especially as the Government plans to expand the area of concessions, and marked interest has been shown by international petroleum capital.

Transport of crude oil and derivatives has also created some investment problems in Latin America.[16]

In Bolivia, an intensive construction programme was carried out, to a value of 23 million dollars,[17] while in Colombia expenditure on this item exceeded 15 millions. About 30 million dollars were spent in Mexico on expanding facilities. In Argentina, where there was little advance in 1955, it is planned to invest some 20 millions over the next two to three years.

Refining of crude completed in 1955 a stage of substantial expansion which had begun two or three years previously, while a second such phase, which will require considerable investment, is now opening.

Early in the year refineries were opened in Argentina which brought capacity level with demand, and large new investments to absorb the future growth of total consumption are being considered. In Brazil, as already noted, priority was given to investment in refining, and in another two years it is hoped that refining capacity will keep pace with consumption. The Presidente Bernardes refinery, inaugurated in 1955 with a daily capacity of 60,000 barrels, had represented an investment of 1,500 million cruzeiros (or approximately 50 million dollars) for Petrobras. These activities are not restricted to fiscal enterprise, and Brazilian private enterprise completed two large refineries in 1954.

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[13] Its value may amount to rather more than 6 million dollars 1956.

[14] It is proposed to invest 26 million dollars in production of ude during 1956.

[15] It is planned to invest some 1,650 million pesos (equivalent to about 4.5 million dollars) in the proven oilfields during 1956.

[16] See section 3 above.

[17] The Cochabamba-La Paz pipeline will result in substantial foreign exchange saving, because some of the railway freight revenue had to be converted into foreign currency at the official rate.

On the initiative of a foreign company in Colombia, work began on the installation of a refinery at the port of Mamonal, Cartagena, at the end of the year, also to meet domestic demand. It will have a daily capacity for treating some 26,500 barrels of crude and represents a 30-million-dollar investment. Operations should begin in 1957.

Venezuelan investment in refining, which had provided a capacity higher than the demand, fell off during 1955,[18] and only one small refinery was completed during the year. A contract for the supply of liquid fuels for the electrical industry in the United Kingdom led the British company operating in Venezuela to extend its refineries in that country. This new expansion, together with another effected by the largest company, will, over the next two or three years, provide an additional daily capacity of 170,000 barrels. A plant is also being built at a cost of 36 million dollars to produce 35,000 barrels of aviation spirit, and a further large gas reinjection plant is to be installed.

In Mexico, the Pemex company has aimed at raising its refining capacity in order to keep pace with crude production as well as with the requirements of the domestic market and exports, particularly as regards light products. A plan has been completed for the enlargement of the Atzcapotzalco refinery which will increase capacity from 50,000 to 100,000 barrels a day. The Minatitlán refinery was expanded in 1955, with the completion of the first cracking plant to be installed in Mexico.

9. PLANS FOR DEVELOPING ENERGY RESOURCES

Official intervention in the development of energy production and supply in Latin America found more vigorous expression in new ventures and the progress of existing projects. The existence of integral or partial plans does not imply that action has always been taken, but such projects have served to evaluate and emphasize the magnitude of the problem and to indicate financial, economic, technical and administrative requirements. Since almost all the countries of the region are faced with an acute need to promote production of energy, it is clear that any delay will influence their national economies.

Except in such cases as Mexico's, no Latin American country attained all the targets it had established for the development of the different sources of energy. Although achievements were satisfactory in many countries, in others only relative progress could be noted. Circumstances of various kinds combined to hinder the execution of plans and programmes. Among them were difficulties of a financial nature, particularly foreign exchange shortages. Defects in the programming of work, delays in supplying equipment, mistimed contracting or failure to integrate the various phases of the same project, were frequently decisive obstacles to the due completion of large-scale undertakings. They were aggravated by other administrative difficulties, such as red tape, and vagueness as to where decisions and responsibilities rested. Delays also arose at times because the lack of complete field studies before the work was begun halted its subsequent progress; or, again, they were caused by the non-existence of draft or final plans for projects where adequate and opportune financing would have been available.

Few of the countries had organic programmes covering the whole energy sector and aiming at the co-ordinated development of the different resources in terms of over-all national requirements. It was more often the case that only tentative steps, of no great importance, had been taken to co-ordinate the various forms of energy. In Argentina, however, the organization of the sector is on a much broader basis.

Petroleum production does not lend itself to very precise planning, since it is based on resources of uncertain evaluation. Hence short-range plans by State bodies and official policy directives have alone provided some general guidance. Prospecting has continued, with varying success in the different countries, but, as a rule, drillings have been insufficient—except in Venezuela—to ensure a future increase in production consistent with the forecasts of demand. The same is true of the volume of petroleum extracted.

Nevertheless, plans to increase refining capacity are being satisfactorily carried out and work on pipelines has not been greatly delayed on the whole, except in the case of Argentina.

In contrast, several countries already possess national plans for electrification, which are at various stages of implementation, while others are at present drawing them up. But in this latter connexion a difficulty should be noted. The number of projects begun or being studied in 1955 was insufficient to permit any rapid acceleration in the rate of construction, and would also be inadequate during the next few years, even if the required capital were available.

In Argentina, the high tension lines have not yet been completed,[19] nor had work begun on other connecting systems. Other projects to improve transmission are also well behind schedule.

In Chile, the Empresa Nacional de Electricidad (Endesa) carried out in 1953-54 the first stage of the work on the National Plan drawn up in 1940, but economic and budgetary obstacles prevented the second stage from being initiated. In 1955, budgeted investment amounted to 3,760 million pesos (8.5 million dollars) but only 3,000 millions (6.8 million dollars) were actually available. The estimated 1956 budget of 8,690 million pesos (17.5 million dollars) had to be reduced to 6,620 (13 million dollars) as a result of exceptional fiscal economies arising out of the Government's anti-inflation

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[18] Larger investments are planned for 1956.

[19] The fact that the San Nicolás plant, with a capacity of 300,000 kW, was completed at the beginning of 1956, does not invalidate this statement.

. This reduction will affect installations of some 000 kW under construction. In real terms the budget roved for 1956 will be slightly larger than that of the ious year, but it is insufficient to solve the whole lem, in view of the work which had to be postponed. the other hand, the National Plan had assumed that e of the work—178,000 kW and the transmission s to carry energy generated by Endesa—would be ied out by private enterprise, but it is already clear this target will not be reached, perhaps because profit incentive is inadequate. To remedy this situa- , the Government plans to modify the existing Gen- Legislation on Electrical Services, especially in rd to the public utility rates. The aim is to ensure egree of profitability which will provide an induce- t for the private investor, and at the same time to e the public services on a better financial basis.

rogress in Mexico surpassed previous years' estimates plans, and the aggregate capacity of 2 million kilo- ts envisaged for 1958 will have been exceeded by -1956. Despite this evolution, the rate of growth of capacity declined, since it rose by only 4.3 per cent 954-55 in contrast with an annual average of 9.2 per t during 1950-55. This was the result of the comple- of large electrification projects and the withdrawal n service of out-of-date plants; it does not imply any kening in the pace of future construction. Estimates w that construction already under way or projected raise capacity by 1960 to 3 million kilowatts, 50 per t more than in 1955-56.

he Comisión Federal de Electricidad in Mexico will arently complete by the anticipated deadline—towards 0—the first stage of its electricity expansion pro- mme, and studies on a country-wide basis for the t ten years are now being carried out. Investments to 1963 are estimated at 3,529 million pesos (282 lion dollars) and 248 million dollars in foreign ex- nge for the whole electricity programme; 55 per cent be derived from public funds and will be mainly responsibility of the Federal Electricity Commission, ile the remainder, except for 4 per cent, will be invested the two foreign enterprises operating in the country.

Other nations—Brazil and Colombia—have established ional electrification plans more recently. Their prin- al aim is the expansion of electricity services, but the grammes at present lack some of the legal instruments essary for their integral application.

The National Electrification Plan, presented by the deral Government of Brazil, is still tabled before Con- ss. It calls for the creation of an agency to be known the Centrais Elétricas Brasileiras S.A. (Electrobras), ich will undertake a substantial programme of pro- ted works. To finance the plan, the Federal Govern- nt simultaneously submitted a draft bill to set up an ctrification Fund, which became law in August 1954. der its terms, federal, state and municipal governments l receive 40, 40 and 20 per cent, respectively, of the enue from the Fund and disbursement will be effected ough the Banco Nacional do Desenvolvimento Econô- co, where these resources will be concentrated. During 55, it was estimated that a revenue of 1,966 million zeiros (some 43 million dollars) would accrue from following sources: 1,000 millions, from the product a uniform tax on electricity established in the Fund law; 420 millions, from one-fifth of the yield of the federal tax on the remittance of funds abroad; and 546 millions from 40 per cent of the revenue derived in 1954 from the tax on consumption.

While the National Plan is being organized, local electrification programmes have been progressing, some in charge of autonomous bodies financed with public funds—such as the São Francisco Valley enterprise—and others through the States, as in the case of Minas Gerais, Rio Grande do Sul, Espiritu Santo, etc.

Colombia's National Electrification Plan, completed in early 1955, shows that investment of some 75 million dollars annually, including local expenditure, would be required for an annual increase of 11 per cent in installed capacity. The plan was drawn up with the collaboration of the Instituto de Aguas y Fomento Eléctrico. A State-financed agency will perhaps be formed to implement it by providing the bulk of the capital, by establishing autonomous entities or by contributing to the capital formation of the enterprises which exist at present. The plan took into account the institutions already operating in the various areas and the work completed to date has in fact been carried out by these organizations. Of particular importance among them is the Corporación Autónoma del Valle del Cauca, whose programme for multiple hydraulic utilization has already received State funds so that the work can be begun, while efforts are being made to obtain a loan from the International Bank.

The electrification plan of the Corporación Venezolana de Fomento did not advance to any great degree during 1955, but, considering the progress made since 1953 and probable developments in 1956, average expansion will probably fulfil expectations.

The programme of the Instituto Costarricense de Electricidad was delayed in 1955; consequently its main hydro-electric project cannot be completed before 1957. Thermo-electric plants are being used to provide immediate services.

Finally, mention should be made of the efforts undertaken by the Comité de Planificación in Ecuador to put into effect a five-year national electrification plan, drawn up with international technical advice. The plan envisages an acceleration of the rate of installing new capacity, which has been too slow in the past.

10. INSTITUTIONAL DEVELOPMENT

During the course of 1955, a number of developments took place in the institutions dealing with energy throughout the region. New agencies were established, existing institutions were reorganized and legislative action was taken to provide facilities.

A National Energy Commission was created in Nicaragua. The structure of State participation was slightly modified in Argentina. Reorganization of the Instituto de Fomento Eléctrico and the establishment of a National Electricity Commission are planned in Colombia. Chile and other countries are considering the adoption of legislative measures for electricity services, to encourage private enterprise and to increase capacity; a law along similar lines has already been passed in Peru.

In 1955, the activities of official agencies expanded, both as regards the study and formulation of programmes to improve the utilization of national sources of energy and with respect to State investment in specific projects. Progress was also recorded in studies for integrating the utilization of different types of energy and in prospection for available resources; this is particularly true of petroleum, but it also applies to hydro-electricity and coal. Several countries have sought the advice of experts from international specialized agencies. During the period under review, prospecting for radio-active minerals was begun or intensified in some Latin American countries, and most encouraging results have been obtained in some cases. Brazil, which is considered as one of the countries in the world most richly-endowed in this type of resource, is already working monazite deposits. A small plant for producing natural metallic uranium has recently been completed in Argentina. In several other countries there are proven deposits whose grade and size warrant future commercial exploitation.

These activities have in general been carried out by national atomic energy commissions. A body of this nature has existed in Argentina for several years, while Commissions were set up in Chile and Brazil during 1955. In Brazil, the new entity forms part of the National Research Council which has been concerned with atomic energy since 1951. There are similar plans in Bolivia, Peru and Mexico, based in this last case on an institute which deals with radioactive minerals. These five countries, as well as Cuba, Colombia, Uruguay and Venezuela, have all signed bilateral agreements with the Unite States which will enable them to receive equipment[20] an to obtain nuclear fuel on a hire basis for purposes (atomic research and the training of personnel; this technical training is of considerable significance for th future and is being given well-merited importance b Latin American Governments.

An outstanding aspect of international co-operation i the sphere of energy was the progress achieved in th bilateral utilization of water resources. For example, a agreement was signed between Paraguay and Brazil t study the hydro-electric possibilities of the Acaray an Monday rivers, which are both tributaries of the Paran flowing through the territory of Paraguay. Under th terms of the agreement, Brazil will carry out the researc work and will collaborate with Paraguay in financin the project.

In addition, the Governments of Bolivia and Peru hav undertaken a study on the utilization of the waters o Lake Titicaca through a joint *ad hoc* commission, whil Argentina and Uruguay have confirmed their interest i building the necessary works to exploit the hydro-electri potential of the Great Falls on the Uruguay river.

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[20] It has been announced that the first reactor of this typ (5,000 kW) will shortly be installed at a Brazilian researc centre. Other Governments are also negotiating to obtain exper mental reactors.

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Appendix

THE MECHANICAL WOODWORKING INDUSTRIES[1]

I. GENERAL CONSIDERATIONS

he mechanical woodworking industries cover a great variety of rprises from the most primitive hewing and hand sawing of eer settlers to the modern sawmills and factories that provide wood construction materials required by modern industrial ization. The widespread use of wood manufactures which fol- s the development of mechanical woodworking industries is a r indication of improvement in living standards. When these ducts come from local forests managed under sustained yield ciples and are produced by local industries, a solid foundation rovided for continuing economic development and the increas- prosperity and well-being of the people of both the country region. The following pages provide a general survey of the sent situation in Latin America's sawmill, plywood, fibreboard chipboard industries, with special reference to eleven coun- s[2] from which reports have been received.

orest exploitation in Latin America in the past has not been from the errors which have brought disaster to the forest er in many other parts of the world. Among such practices are creaming of the forest by felling only the species of high nmercial value, the destructive cutting, with no regard for eneration, which in many localities has caused the forest to eat far from the cities, and the wasteful practice, still wide- ead, of shifting cultivation. Yet, by and large, these practices e not seriously depleted the region's immense forest capital as vhole, but, considering the forests in use, it is clear that ex- itation and shifting cultivation have done considerable damage many countries. Nevertheless, there are a number of factors ch justify an optimistic view of the possibilities for a rapid ansion of the mechanical woodworking industries in Latin erica, bringing an ever-growing contribution to the region's ng prosperity.

irst and foremost the astonishing growth in forest conscious- s must be emphasized, particularly during the last decade. vernments and peoples have come to recognize the importance their natural heritage, and are taking vigorous steps to pre- ve it and to use it rationally. Since Latin America is a young l rapidly-developing region, this means that much of the unre- ained destruction of the forests which has accompanied indus- lization in the more highly-developed regions can be avoided. e establishment of forestry administrations, training schools and earch centres promise more highly-skilled management and ater control over the ways in which the forests will be used. ensive research into the physical and chemical characteristics the many species encountered in the tropical hardwood forests nts the way to the full utilization of these valuable but hetero- neous resources.

New roads and railways which are being constructed in many rts of Latin America are opening up new areas of forest to all- ather use. In several countries recently-built transport routes ve made vast wooded areas accessible for the first time; their ploitation may begin whenever demand conditions warrant.

The region's forest wealth is not confined to natural forests. These indeed are unevenly distributed over Latin America and in many countries artificial forests have already been created to replace local deficiencies. Of particular note are Brazil's eucalypts, Chile's insignis pine and Argentina's poplar and poplar-willow, but plantations are not confined to these countries or to these species.

Shortage of capital has been a drawback to logging and to the more rapid development of the mechanical woodworking industries, because the seasonal character of many of these industries requires a relatively high capital investment. As national economies develop and local markets expand the capital requirements can also be met more easily.

Forest administrations in several Latin American countries are faced with the difficult problem of managing lands which, although better suited for timber growing than farming, are periodically destroyed by the practice of shifting cultivation. Land ownership in many forested areas is poorly defined and transitory, ownership boundaries and survey corners are often non-existent, while in many areas occupation and use of the land is by temporary "squatters". It is estimated, for example, that in some Central American countries as many as 67 per cent of all farmers can be classed as squatters, many of them practising shifting cultivation which all too frequently destroys forests and soils while adding little to agricultural production. To improve this situation, these transient cultivators should be integrated as far as possible into the forest economy, using their man-power for logging, charcoal burning, sawmilling, planting, etc., while achieving a simultaneous improvement in their agricultural output.

As existing mechanical woodworking industries are modernized and new ones created, some of the population pressure on the land will be relieved by increasing employment in rural industries. Forestry and the manufacturing enterprises based on forest products are particularly well-suited for farmers freed from the struggle for existence on unproductive forest clearings.

II. THE SAWMILLS

The leading product of Latin American mechanical woodworking industries is sawn hardwood, the output of which is estimated to have exceeded 5 million cubic metres in 1955. This volume was made up of a great number of species; for example, even Cuba, with an annual production of sawnwood from hardwood species slightly over 50,000 cubic metres, utilizes no less than 45 species.

Conifers are usually preferred to hard or broad-leaved woods for building and other purposes, because they are more easily sawn, seasoned, and shaped; they are relatively scarce and localized in Latin America but are estimated to have provided approximately 4.75 million cubic metres of sawnwood in 1955.

The number of sawmills and their average annual output are shown in table I. How these sawmills met the current sawnwood needs of the reporting countries may be seen by comparing their statistics with production, imports, and exports for a few selected years. (See table II.) The net exporting countries appear to be Brazil, Chile, Honduras, Mexico and Paraguay. It is interesting to note, however, that the *per capita* consumption of sawnwood, as reported to FAO, is relatively low in most Latin American countries. The data in table III should be accepted with caution, however, because the information is obviously incomplete for many of the countries. The sawnwood consumption of Paraguay and Peru, for example, may actually be considerably higher than the figures indicate.

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[1] Contribution to the *Economic Survey of Latin America, 1955,* the Forestry Division, Food and Agriculture Organization.

[2] Namely, Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, atemala, Honduras, Mexico, Paraguay, and Peru. It is esti- ted that these countries, which together possess 92 per cent of tin America's area of accessible forest, account for 90 per cent the region's total sawnwood production.

Table I. Latin America: Sawmills in selected countries according to annual capacity

(Cubic metres)

Countries	Less than 1,000	1-5,000	5-10,000	10-20,000	12-50,000	Over 50,000	Unspecified	Total
Argentina	...	...	...	...	...	...	1,009[a]	1,009[a]
Brazil	2,159	2,923	244	144	13	1	—	5,484
Chile	344	103	18	6	1	—	—	472
Colombia	50	90	10	—	—	—	—	150
Costa Rica	35	63	7	1	—	—	62	168
Cuba	...	...	...	...	...	...	235	235
Guatemala	40	23	10	5	—	—	—	78
Honduras	8	29	14	14	2	—	—	67
Mexico	...	...	...	...	...	...	300	300
Paraguay	37	20	—	—	—	—	—	57
Peru	89	3	3	—	—	—	—	95
TOTAL	2,762	3,254	306	170	16	1	1,606	8,115

Source: Food and Agricultural Organization.

[a] From 1946 census.

Table II. Latin America: Production and trade in sawnwood[a]

(Thousands of cubic metres)

	Production					Imports					Exports				
	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954
Latin America[b]	7,160	8,700	9,400	9,100	9,500	...	...	...	...	...	1,650	1,790	1,310	1,620	1,700
of which:															
Argentina	...	1,048	900[b]	910[b]	980[b]	859	1,210	660[b]	540[b]	780[b]	13	10[b]	10[b]	5[b]	—
Brazil	3,270	4,188	4,361	4,305	4,386	0.2	1.3	0.5	1.0	1.0	867	1,144	662	777	947
Chile	525	620	602	579	840	1.9	7.6	2.3	4.7	—	178	126	94	136	202
Colombia	...	...	...	580	670	...	...	...	...	...	...	...	...	...	...
Costa Rica	...	...	...	...	...	5.0	...	...	2.5[b]	...	2.4	...	...	22[b]	...
Cuba	76[b]	...	...	55	53	...	...	...	173[b]	159[b]	...	...	...	1.0[b]	0.7
Guatemala	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.4
Honduras	954	...	521	...	...	1.7	...	0.4	...	...	76	103	140	133	...
Mexico	1,420[b]	1,490[b]	1,120[b]	1,060[b]	940[b]	54[c]	77[c]	84[c]	87[c]	89[c]	400[b]	250[b]	140[b]	120[b]	120[b]
Paraguay	68	73	119	...	...	...	...	...	...	...	16	...	...	19	13
Peru	27	75	94	77	86	47	59	69	159	8.1	7	11	10	3.2	13

Source: FAO.

[a] Excluding sleepers.

[b] FAO estimates.

[c] Exports from the United States.

able III. Per Capita sawnwood consumption in selected countries

ry or region	Period	Kilogrammes
rope[a]	1950-1954	70
rth America	1950-1954	330
tin America[b]	1950-1954	35
Argentina	1951-1954	65
Brazil	1950-1954	40
Chile	1950-1954	50
Colombia	1953-1954	35
Mexico	1953-1954	20
Paraguay	1953	5
Peru	1950-1954	10

urce: FAO, *Yearbook of Forest Products Statistics, 1955.*
Excluding countries of Eastern Europe.
Excluding countries not listed below.

is evident that although several of the reporting countries of n American export sawnwood, their consumption is much r than in industrially-developed countries of North America urope; in these regions, however, timber scarcities have led conomies in the use of sawnwood and to its replacement by r materials.

e sawmills of the eleven reporting countries are mostly ately-owned and financed by domestic capital; foreign capital arently plays only a minor role in this industry. Plans for ex- sion of sawnwood production are reported from Chile, Colom- Honduras and Mexico. Several of the projects are to be in- ated with pulp manufacture and with plants for utilizing nill by-products.

1. Argentina

ccording to the Fourth General Census of Argentina made in , there were a total of 1,009 sawmills. Details about their were not reported. An estimate of employment in sawmilling ng 1955 indicates a total of 9,850, of whom 22 per cent were sified as skilled workers.

awmills have not been integrated with other woodworking in- ries and the only major use of their residues is for fuel.

awnwood output (see table II) is predominantly of the hard- d species. Sleeper production reported for 1953 reached 90,000 c metres and increased to 99,000 in 1954. It is estimated that than one-fourth of the railway sleepers are treated against y. Argentina is a net importer of sawnwood, the main sources mports being Brazil, Chile, Romania, Paraguay, Poland and United States.

ccording to the 1953 world forest inventory, Argentina then 10 million hectares of forests in use, while 50 million hectares ccessible forest land remained to be developed. For the most these resources are far from the main population centres, but ecent years extensive stands of poplar, willow and pine species e been planted in the Paraná delta area. Plans existed in 1955 nodernize and to expand the sawmill industry on a moderate e.

2. Brazil

he total of 5,484 operating sawmills reported in Brazil (see le I) refers to the four southern States of São Paulo, Paraná, ta Catarina, and Río Grande do Sul, data for the rest of zil not being available. These mills are mostly small enterprises many are equipped with single-unit frame head saws.[3] Some 10 per cent are band sawmills and 25 per cent have gang head saws. Approximately 10 per cent of the total number of sawmills are electrically-driven, the rest being steam-powered. The workers are mostly unskilled, only one-tenth being classified in the "skilled" category.

Integration with other woodworking industries has shown little progress to date in Brazil. The only significant utilization of sawmill residues is for fuelwood.

Brazilian sawmills are located mostly near the forests. Their record of stability of operation is relatively good, for example, in 1955 only 18 sawmills were reported idle and 5,484 were operating. The chief cause of idleness was said to be the lack of raw materials available to individual mills.

Brazilian sawnwood output (see table II) is 70 per cent Paraná pine (*Araucaria angustifolia*), the only important softwood species.

Sawnwood exports (almost entirely Paraná pine) during 1953 and 1954 were mainly shipped to Argentina, the United Kingdom, Uruguay, the Union of South Africa and Western Germany. Small tonnages have also been exported to several other countries, primarily in Europe and North America. Sleeper exports totalled 14,000 cubic metres in 1953 and dropped to 5,300 in 1954.

There is a strong overseas demand for Paraná pine, but fears have been expressed that the accessible forests of this species have been excessively exploited in the past. The regeneration of Paraná pine presents a number of difficulties, but in recent years efforts have been made to establish plantations. Meanwhile, domestic demand for sawnwood is growing swiftly. A rapid rise in population and a high building rate call for an increasing volume of sawnwood. One of Brazil's important resources is the extensive plantation area of eucalypt, especially in the State of São Paulo. The planting of eucalypts started at the turn of the century and was originally designed to provide fuel for wood-burning locomotives.

3. Chile

The outstanding success of Chilean plantations of coniferous species is reflected in the increasing output of soft sawnwood. (See table II). The total of 472 sawmills (see table I) includes 450 within circular headsaws, an unusually high proportion for Latin America. Of the non-circular headsaws reported, 20 are band saws and 2 are gang saws. The circular mills are steam-powered whereas the others use diesel engines. About 90 per cent of the sawmill workers in Chile are listed as relatively unskilled, as may be expected where the mills are small.

The sawmill residues are used chiefly for fuel, either to supply steam power to the mill or as household fuel. Some slabs, edgings, and trimmings, however, are made into boxboards, parquets, broom handles and roofing material.

Chilean sawmills are nearly all conveniently close to forests, either in the forest itself or in nearby small communities. Only three of the sawmills reported in 1955 were government-financed, the rest were privately-owned and investment capital reportedly came from Chilean sources. A new mill financed by French capital is now being installed. The sawmills provide employment to over 10,000 persons annually.

Sleepers are mostly hewn rather than sawn, and annual production in recent years has averaged slightly over 100,000 cubic

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Four types of head saws were reported in Latin America: ular, band, gang, and frame. Circular saws are the most com- n and, although well adapted to small mills, particularly port- e and semi-portable types, they cut a wide kerf and are there- relatively wasteful. Band saws, like circular saws, are used where "sawing for grade" is desired. Logs can be turned between each cut so that the maximum quality can be extracted from each log. Band saws cut narrower kerfs than circular saws but are usually less easily portable. Gang saws make multiple cuts simultaneously and thus have a relatively high volume of output but little opportunity for obtaining high-quality yields. The frame saws which were reported had single blades supported in frames which oscillate to give the cutting action. Frame saws tend to give a low yield in both quantity and quality, but they have the advantage of easier maintenance and operation—qualities which are desirable where sawmill technicians are scarce.

metres. Only 10 per cent of the railway sleepers currently used in Chile are treated with preservatives.

The mainstay of the softwood output is the planted exotic Monterey pine (*Pinus radiata*). In 1954, about 186,000 hectares were planted with this species from a total area of forest plantations exceeding 300,000 hectares.

Although a net exporter, Chile imports a small volume of sawnwood from the United States. Exports have been principally shipped to Argentina, various other South American countries, the United Kingdom and Australia. Most of the exports go to Argentina, having been stimulated by the trade agreement signed in 1954.

The outlook for the sawmill industry of Chile appears to be favourable for further modernization and expansion. Plans exist for the development of an integrated woodworking plant for utilizing native hardwoods, while construction is progressing on another integrated sawmill. A large sawmill to produce wood for the North American market is also planned. The integrated production of soft sawnwood and pulp is contemplated in factories now in the installation stage.

Although many sawmills are still operating with worn-out and antiquated equipment, much has been done to improve manufacturing facilities and new sawmill machinery is being imported. As the equipment is improved and modernized, manufacturing and export will expand. Furthermore, timber supplies will increase as new plantations become productive.

Progress in forestry and forest industries will undoubtedly be stimulated by the training facilities now available in Chile. This programme, a joint achievement of the Government of Chile and FAO, combines professional training in forestry with practical training and experience in modern sawmilling.

4. COLOMBIA

Most of the 150 sawmills reported in Colombia are small diesel-powered circular rigs. (See table I.) Only 30 mills are still steam-powered, indicating that a certain degree of modernization has taken place. The Colombian sawmill industry, on the other hand, employs more workers per operating plant (67) than in any other reporting country except Honduras (90). Aggregate employment in this activity in Colombia was estimated to be 10,000 persons in 1955.

Most mills are located in or near the forest areas and operate under conditions which provide little opportunity for integration with processors of the various by-products. Sawmill residues are usually wasted, only about 10 per cent being used for fuel.

Private ownership and local financing are characteristics of the Colombian mills. An unusually large proportion of sawnwood output comes from primitive handsawing, production from this source representing about 225,000 cubic metres in 1954. This may be compared with a total sawnwood output of 670,000 cubic metres.

Colombia is currently a net exporter of sawnwood, although the volume of the shipments is relatively small.

The outlook for further development in the sawmill industry is extremely favourable. According to the FAO World Forest Inventory of 1953, less than 1 per cent of the 62 million hectares of accessible forest land is at present exploited. The per capita consumption of sawnwood is very low (see table III) and can be expected to increase. The lengthy mileage of navigable waterways facilitates the transport of both logs and sawn products. Plans and development work are progressing on new integrated manufacturing plants, including factories for production of sawnwood, plywood, fibreboard, and pulp.

5. COSTA RICA

The sawmills of Costa Rica are almost all small in size (see table I) but show a varied range of saws and motive power. From a total of 168 sawmills, 100 have circular head saws, 54 are equipped with band saws and 14 are gang sawmills. As to of power 58 are diesel mills, 64 water-powered, 39 electric, an are driven by petrol engines.

About 70 per cent of the sawmill residue is utilized as f this high consumption is attained because 85 per cent of mills are located in or near towns and cities. Only one of mills is a State-financed operation, the remainder are owned financed by private enterprise in Costa Rica. Sawmill industry ployment was reported at an annual average of over 1,300 wor and, in addition, local hand-sawing provides some small additi employment. Foreign trade in sawnwood is negligible in volum

As an active participant in the Economic Integration Progra of the Central American Republics, Costa Rica can expec benefit from the general development of production and t which will probably be accelerated by closed co-operation betw the countries, exchange of technical skills, and modernizatio industry. The various international organizations are assis Costa Rica, as well as its neighbouring countries, to improve est management and the woodworking industries. The trai centre at Turrialba, Costa Rica, is providing local facilities technical training, including various aspects of forestry.

6. CUBA

With one of the smallest forest areas per inhabitant of country in Latin America (0.2 hectares), Cuba is a net impo of sawnwood. Nevertheless, the 1,090,000 hectares of forests in provide raw materials for 235 sawmills (see table I) which corded a production in 1954 of 53,000 cubic metres. This ou represents but a very small fraction of aggregate Cuban capa Sawmills have been established in the past with complete neg of the sustained yield possibilities in the areas exploited. Even Cuba's forest resources are insufficient to maintain a reasona rate of output in all the existing sawmills. Sawnwood imports 1954 were estimated at 159,000 cubic metres, while sleeper ou stood at 23,000.

The Cuban mills are almost all steam-powered. Nearly thirds of the head saws are band saws, the rest being circu One-fourth of the employees were classified as skilled worker

Most of the Cuban mills are in or near towns and a re outlet is thus available for residue from the mill. Thus all saw "waste" is used as fuel.

Minor tonnages of special sawnwood grades are exported to United States and the United Kingdom. Sawnwood imports c from Brazil, Chile, France, Japan, Mexico, Spain, Surinam, United States and Western Germany.

7. GUATEMALA

With a wooded area per inhabitant close to that of the Un States, more than half of Guatemala's forests remain inaccessi The 78 sawmills reported operating in 1955 were mostly sm diesel and electric-powered, and equipped with circular saws. estimated average annual sawnwood output for recent year about 180,000 cubic metres. In addition, a few sleepers are duced, the estimated output being only 740 cubic metres in 1

Sawmills are generally located in towns or cities and only the total are in the forests. A relatively small tonnage of the mill residue is utilized, however, for fuel.

Sawnwood exports, which stood at 6,400 cubic metres in 1 were mostly shipped to British Honduras, El Salvador, the Un States and Western Germany.

Guatemala has excellent prospects for the further develop of forest management and for the modernization and exten of forest industries. Contributing to this favourable outloo the fact that much interest is being shown in improving techn skills for both forestry and lumbering. Several international ganizations are co-operating with the Government of Guate mprove forest management and exploitation. Plans have been e and action taken to improve logging and sawmill machinery, ch will tend to increase both the quality and quantity of nwood output.

8. HONDURAS

ith an unexploited but accessible forest area of about 2 mil- hectares, composed of both coniferous and broad-leaved spe- , Honduras is particularly well favoured to maintain and ex- d its mechanical woodworking industries. A total of 67 saw- s were operating in 1955 (see table I), while 14 were idle to financial difficulties or lack of raw materials. The sawmills on the average, larger than those of most other reporting ntries. Sixty-two mills in operation reported circular head saws 5 were equipped with band saws. As to motive power, 32 e steam-driven, 33 diesel and 2 electric-powered mills. In 1955, estimated employment in the industry stood around 6,000 per- , of whom 10 per cent were classified as skilled workers. Hon- as also has a hand-sawing industry producing approximately 00 cubic metres of sawnwood each year. Annual output of n sleepers averages about 20,000 cubic metres, nearly all of ch are treated to preserve them.

ost of the sawmills in Honduras are located in or near for- , although 20 are in cities and towns away from forested areas 7 are export centres. Ownership is private in nearly all cases, 7 closely connected to the two large fruit-growing enterprises. s estimated that foreign sources provide three-quarters of the ital for the sawmill industry.

onduras exports its sawnwood principally to Cuba, El Salva- the United States and Venezuela.

onsiderable progress may be anticipated in the mechanical dworking industries as a result of the favourable locations and ain and of the valuable species in the large area of unexploited st. Honduras is strategically located at the centre of the tral American isthmus and thus has ready access to export kets by sea and land. Further development of the forests hin the framework of the Central American Economic Inte- ion Programme may be expected. Domestic consumption of nwood, already at 160 kilogrammes per inhabitant (see table , is expected to increase as a result of expansion in building struction. It is also believed that the export prospects for nwood are capable of further development. The opening of roads in northern Honduras and greater imports of machinery fuel will assist in the exploitations of new forest areas and installation and modernization of the present sawmills.

9. MEXICO

he sawmill industry has not shared in the rapid industrial wth that is generally taking place in Mexico. Industrial pro- tion as a whole has doubled since 1951, but sawnwood output lined from 1,420,000 cubic metres in 1951 to 940,000 in 1954. s decrease is not due to lack of forests but rather to their ation in relation to the consuming centres. Over 20 million tares of forest are reported as accessible but only 4.5 million tares are actually being exploited. The forest policy of the ernment has been to reduce production in exhausted areas; ber-cutting permits have thus been cancelled in many public sts. The regulations provide for studies to determine forest ds and up-to-date methods must be used by those exploiting lic forests, so that the maximum yield from operating sawmills be fostered. The transfer of sawmills from over-cut areas is encouraged. The opening up of new forests has not kept pace h the rationalization of exploitation in the traditional areas total production has thus suffered.

pproximately 300 sawmills were active in Mexico during 1955. y one of these mills was equipped with a gang saw, 12 per t had circular saws and the remainder used head saws. Steam he most common form of motive power.

The sawmills in Mexico are usually located in or near the forests which supply the wood. In some forests, particularly in the Yucatán territory, integrated industries are being developed; plywood plants and furniture factories supplement the sawmills and thereby permit the forest raw materials to be utilized more fully and rationally. The trade in sawnwood is primarily with the United States.

Sleeper production in Mexico was reported at 256,000 cubic metres in 1953 and 367,000 in 1954. Output in 1953 included 120,000 cubic metres of hewn sleepers, the remainder being sawn. No breakdown of the 1954 output is at present available.

The outlook for the development of the sawmill industry in Mexico is excellent. Large areas of valuable coniferous and broad-leaved species await exploitation and the expressed policy of the Government is to secure their use under rules of operation which will seek to maintain the forests as a growing source for a permanent wood supply. In 1954, sixty-three State-owned nurseries produced 36,750 million seedlings. The widespread interest in forestry is noteworthy.

10. PARAGUAY

With 4.3 hectares of accessible forest per inhabitant, Paraguay is more favourably endowed in this respect than any European country except Finland (5.1 hectares) and is ahead of all the other reporting countries in Latin America except Colombia (5.2 hectares). An estimate for 1953 suggests that about half the value and three-quarters of the tonnage of annual exports from Paraguay were made up of forest products. Yet the current survey shows that the sawmill industry is far from flourishing, since 57 mills were in production and 13 were not operating. The causes for this high rate of idleness were given as inadequate capital and lack of markets. Sawnwood consumption in Paraguay is the lowest reported in Latin America.

Most of the sawmills are of small size (see table I) and use steam-powered band saws. Of the 57 mills only 2 had circular headsaws, 29 had band saws, and the remaining 26 were gang mills. The motive power was classified as 49 steam, 2 steam-electric, 1 diesel-electric and 5 petrol-driven. Employment in the sawmill industry was reported to be 850 workers, of whom about a quarter were listed as "skilled" in 1955.

One of the sawmills in Paraguay is integrated with a plywood factory. The utilization of waste, mostly as fuel, is reported to be excellent for the entire industry.

Sawnwood output (see table II) was about 120,000 cubic metres in 1952. Most of this volume was produced by sawmills, but approximately 4,000 cubic metres annually are estimated to come from primitive hand-sawing operations. Sleeper production in 1953 stood at 5,000 cubic metres. Forest and forest products statistics are not sufficiently well developed to give accurate or up-to-date information.

The forests of Paraguay are all classified in the broad-leaved group and no coniferous forests or softwood production are known.

Sawnwood exports represented 19,000 cubic metres in 1953 and 13,000 in 1954. About 95 per cent of these exports were dispatched to Argentina, with which country a trade agreement exists, and the remainder went to Uruguay.

The outlook for increased sawmill production is difficult to assess because it is dependent upon the domestic economic situation. A large area of accessible forest remains unexploited (over 1.25 million hectares), but sawnwood consumption is so low that some increase in domestic requirements may be expected.

11. PERU

A very low level of sawnwood consumption (see table III) and relatively little progress in forest exploitation characterizes the situation in Peru. The 95 sawmills reported as operating in 1955 were almost all very small (see table I), but had a variety of power plants. The most common source of power was the petrol engine, reported at 36 sawmills. Other forms of energy listed were as follows: 29 diesel; 17 steam; 8 electric; and 5 water-driven. The types of head saw reported were: gang, 44; circular, 43; and band saws, 8.

In addition to a sawnwood production of 77,000 and 86,000 cubic metres in 1953 and 1954 (see table II), the woodworking industries of Peru showed a sleeper output of 14,000 and 22,000 cubic metres, respectively, during these years. The hand-sawing industry is small, averaging only about 3,000 cubic metres of sawnwood annually. The estimated employment in the whole industry stood at 3,000 workers in 1955.

The sawmills are located for the most in or near the forests, usually along navigable rivers. Only 3 of the 95 sawmills are State-owned, the rest are private enterprises mainly financed by Peruvian capital.

Peru is a net importer of sawnwood, mostly softwoods. Imports arrive chiefly from Argentina, Canada, Ecuador, Nicaragua, the United Kingdom, the United States, and Western Germany. Small tonnages of broad-leaved sawnwood are exported to Argentina, Bolivia, Cuba, Spain, the United Kingdom and the United States.

The future development of the sawmill industry depends to a considerable degree on the general economic growth of Peru. Government policy has encouraged imports of machinery, particularly for agriculture, which may have favourable effects on the sawmill industry. The intensified campaign to colonize some of the forested zones may serve to open up new rural and forested areas and to increase sawnwood utilization.

12. Other countries

Although the non-reporting countries produce only about 10 per cent of the region's aggregate sawnwood, this output is important to the individual countries. It is also probable that the sawmill industries of several of these countries may expand in the future. For example, the Forest Service of Bolivia recently imported logging equipment and domestic sawnwood production in recent years has reached substantial tonnages. The establishment of several sawmills of medium capacity (20 to 80 cubic metres daily) was reported almost ten years ago.

British Guiana had 76 sawmills and 40 saw pits operating in 1954. The sawnwood production (including sleepers) stood at 183,000 cubic metres in 1953 and 83,000 in 1954.

British Honduras reported 21 sawmills in 1954, with a production of 51,000 and 45,000 cubic metres in 1953 and 1954, respectively. The sawnwood output of the Dominican Republic is noteworthy, representing 64,000 and 56,000 cubic metres for 1953 and 1954. Ecuador at present produces relatively little sawnwood (29,000 cubic metres in 1953) but possesses large resources of virgin forest. Two million of its 2.5 million hectares of accessible forest remain unexploited, while an additional 9.5 million hectares of forest are classified as currently inaccessible.

Heavily-forested French Guiana has recently established a Forestry and Agricultural Office to encourage forest industries by facilitating loans, providing equipment and carrying out market studies. Nicaragua reports sawnwood exports of 86,000 cubic metres in 1953 and 60,000 in 1954, which suggests a sizeable output, even if production statistics are not available. According to a report prepared in 1948, a total of 56 sawmills were operating in Nicaragua at that time.

With an area of only 235,000 hectares of accessible forest, Trinidad and Tobago nevertheless had 70 operating sawmills in 1954, including 21 band mills. Factories for matches and boxes also were in production.

Two other fairly important producers of sawnwood, Uruguay and Venezuela, must be mentioned. Uruguay reported an output of 51,000 cubic metres for 1954 and Venezuela produced 110,000 cubic metres in the same year.

III. THE PLYWOOD INDUSTRY

Plywood (including blockboards) has been produced in seve of the Latin American countries for a number of years. The o put of the two leading producers, Argentina and Brazil, has vari considerably from year to year; aggregate production in La America has grown from 150,000 cubic metres in 1946 to estimated 205,000 in 1955.

The steady growth of plywood production and utilization being encouraged by the advances in plywood technology. I provements in glues have allowed the product to be used bo indoors and outside, as well as for a variety of purposes. Ma Latin American woods have colour and grain characterist which make them particularly suitable for decorative plywoo much of the region's output is made into furniture.

1. Argentina

The plywood industry of Argentina has received special offic encouragement by being declared an industry "of national int est". Nevertheless, from a total of 49 plywood plants only were in operation during 1954. Argentina's plywood industry w established many years ago and has since expanded somewh beyond the availability of domestic raw materials.

As indicated in table IV, the plants are mostly small in si In spite of the many mills which were not operating, the 19 output reached 31,000 cubic metres and for 1955 it was es mated to stand at 35,000. (See table V.) The industry is es mated to have employed 1,635 persons in 1955.

Table IV. Latin America: Plywood plants

(Average annual output in cubic metres)

Country	*3,000 or less*	*Over 3,000*	*Unspecified*	*Tot*
Argentina	25	3	—	2
Brazil	...[a]	...	234	23
Chile	3	1	—	
Colombia	3	—	—	
Honduras	1	—	—	
Mexico	...	...	5	5
Panama	...	...	1	1
Paraguay	2	—	—	
Peru	...	...	2	
Total	34	4	242	280

Source: FAO.

[a] 90 per cent were reported in this category.

[b] Other plants were reported in Bolivia, Guatemala, Surinar and Venezuela.

Plywood is used in Argentina for the manufacture of furnitur for crating and for interior panelling. Domestic production usuall falls short of requirements and imports are necessary from Brazi Finland, Sweden and the United States. The outlook for any ap preciable increase in domestic production is unfavourable becaus raw materials for existing domestic plants are in short supply.

2. Brazil

The leading plywood producer, Brazil, accounts for about one half of Latin America's output. The 234 plants listed in table I are in the southern States of São Paulo, Paraná, Santa Catarin and Río Grande do Sul. Rotary peeling is accomplished by 18 of the mills and 54 produce sliced veneers. The factories ar nearly all located in centres of population. They produce for do mestic consumption, since exports, which were substantial in th early post-war years, are now negligible. Financing appears t come almost entirely from Brazilian sources.

The bulk of plywood output is from Paraná pine (*Araucari angustifolia*), though some hardwood species are used. Plywoo output is used primarily for furniture (70 per cent), crating an interior panelling.

Table V. Latin America: Plywood production and exports

(Thousands of cubic metres)

	Production						Exports					
	1946	*1950*	*1951*	*1952*	*1953*	*1954*	*1946*	*1950*	*1951*	*1952*	*1953*	*1954*
tin America[a]	150	130	160	150	180	200	50	25	30	15	15	15
of which:												
gentina	20[a]	29	48	33	29	31	—	—	—	—	—	—
azil	110	59	67	63	79	93	38	11	11	1.8	0.2	0.8
lombia	...	...	...	...	4[a]	6	—	—	—	—	—	—
sta Rica	...	...	...	...	...	...	—	—	—	—	—	—
ba	...	...	...	...	...	...	...	...	...	...	—	—
ile	10[a]	12	12	14	12	13	6	2.8	4.9	0.9	0.6	1.0
atemala	—	5[a]	5[a]	5[a]	7[a]	7[a]	...	...	...	...	—	—
nduras	—	—	—	—	—	7	—	—	—	—	—	—
exico	5[a]	10[a]	10[a]	18	20[a]	20[a]	...	...	...	2.3	1.5	...
raguay	1.5	1.7	1.5[a]	1.5[a]	1.2	1.8	—	—	—	—	—	—
ru	...	...	...	...	5[a]	5[a]	—	—	—	—	—	—

Source: FAO based on official statistics.
[a] FAO estimates.

The outlook for the Brazilian industry is optimistic because do-stic markets are expanding with over-all economic development d the increase in population. It seems probable that raw ma-rials will be available to permit the expected expansion. The port market situation, however, remains somewhat unfavourable; e reason is the general expansion of plywood production in the untries which formerly received Brazilian exports.

3. CHILE

Chile is the fourth largest plywood manufacturer in Latin merica and, with a 1954 output of 13,000 cubic metres, ranks hind Brazil, Argentina and Mexico, in that order. Only 4 ply-ood plants are reported (see table V). Three are rotary peeling ants and one produces sliced veneers. Three of the plants are cated in or near the forests, while one is situated at a port and ilizes domestic and imported logs. All the factories are a con-derable distance from Santiago where 70 per cent of the do-estic plywood is consumed.

The factories are all privately owned and are financed by either hilean or Argentine capital. Some expansion and modernization at present proceeding, including, for example, the installation new machinery from Western Germany.

An estimate of the present use of plywood shows 50 per cent r flush doors, 40 per cent for furniture and 10 per cent for nstruction, building interiors and exteriors, railway carriages, ats and aeroplanes.

Foreign trade is currently of minor importance with exports ightly exceeding imports. Small exports are made to Peru, the nited Kingdom, Venezuela and some other South American untries.

Plywood production in Chile will increase as domestic con-mption rises. The present consumption is estimated at 1.1 kilo-rammes per inhabitant, in contrast with an average of 2.9 for urope and 16.6 for North America, for example.

4. COLOMBIA

Colombia produced an estimated 6,000 cubic metres of ply-ood in 1954 from 3 plants which are all equipped for rotary eeling. They are all privately owned and financed with domestic apital; the factories are located in cities some distance from their ood supplies. Average annual employment is estimated at 300 ersons.

All the plywood output is used within Colombia and small ton-ages are imported. Approximately 60 per cent of plywood used is for interior finishing and doors, about 20 per cent for furniture and the remaining 20 per cent for miscellaneous uses. Imports mainly come from the Netherlands, the Netherlands West Indies, Panama, Surinam and the United States.

Prospects for continued expansion in the domestic market are good, with a 30 per cent increase in the anticipated plywood needs arising from existing building programmes. No expansion of plywood exports is foreseen, however, because the output of the present factories that are under construction at Tumaco and a further plant in the blue-print stage, will all be absorbed by the domestic market.

5. HONDURAS

The one plant operating in Honduras employs about 50 workers and in 1954 produced about 7,000 cubic metres of plywood. Domestic consumption is expected to expand in the near future and the prospects of exports to neighbouring Central American countries are favourable.

6. MEXICO

An annual output of about 20,000 cubic metres places Mexico in third place as a regional producer of plywood. One of the factories is at Mexico City, the remaining 4 are near or in the forest area. The species used are principally pine, mahogany and cedar. Some plywood is imported from the United States and a small export market is supplied in Cuba, the United States, and Porto Rico. Domestic use of plywood is chiefly for furniture and doors.

Further expansion in production may be expected in view of the over-all economic development of Mexico and the ready availability of veneer logs from various species. New plywood mills are planned for Quintana Roo in south-east Mexico, using mainly mahogany, and for Chihuahua in the north, using pine.

7. PARAGUAY

The two plywood plants in Paraguay produce both rotary cut and sliced veneers for the domestic market. About 200 persons are employed and the annual output is close to 2,000 cubic metres. (See table V.)

According to recent estimates, 80 per cent of the product is used for crating and the remainder supplies furniture factories.

8. OTHER COUNTRIES

Plywood mills have been reported as operating in Bolivia, Guatemala, Panama, Peru, Surinam and Venezuela.

The factory in Bolivia has apparently produced mainly citrus-crate veneer, but recent information is lacking. Plywood has been manufactured in Guatemala since 1950 and the output was estimated at 7,000 cubic metres in 1954.

Panama has had an operating plywood plant since 1953, with an annual output of about 3,500 cubic metres. The species used include *Anacardium, excelsum, Bombacopsis quinata, Calophyllum rekol, Copaifera chiriquensis, Prioria copaifera* and *Swietenia macrophylla.*

Peru reports two plants operating in 1955, which employ about 60 workers. Surinam had a 1954 production of 10,000 cubic metres, but details of the factories are unavailable. An output of 3,000 cubic metres of plywood was reported by Venezuela for 1953, but once again details are not at present to hand.

Broadly speaking, the prospects for Latin America anticipate further growth in plywood production to keep pace with the demand arising from current economic and social development.

IV. THE FIBREBOARD AND CHIPBOARD INDUSTRY

A robust newcomer to the family of forest industries is the manufacture of fibreboards and chipboards. The former product is essentially a result of a pulping process whereby wood fibres are separated, formed into a mat—with or without the aid of water—and pressed into sheets held together by the felting of the fibres or by the natural lignins, added resins or other materials acting as binders. Fibreboard is usually classified into the two groups of hardboard and insulating board; the latter is defined as material, usually from 8 to 20 millimetres in thickness, with porous structure and with good thermal and acoustic insulating properties. Chipboards, which are not products of pulping processes, are made by breaking up wood into small pieces—such as chips, shavings, or sawdust—and forming them into sheets, with resin binding agents fused by heat and pressure. Both fibreboards and chipboards are finding increasing uses as building materials, especially where low cost and insulation against heat and sound are important. To some extent fibreboards are replacing plywood in packaging, furniture manufacturing and the interior finishing of vehicles and buildings.

Fibreboard and chipboard can be manufactured from a great variety of materials, the factories can be established with less capital than pulp and paper mills, for example, and a demand exists or can easily be fostered in nearly all the countries. Latin American fibreboard production dates back only to around the year 1950, when the first plant was opened in Argentina. Two years later a factory in Brazil entered operation. Since then, another plant has been installed in Brazil and a fourth was established in Mexico. A chipboard plant is also now operating in Colombia.

The plant in Argentina, using the Asplund defibrating process, has an annual capacity of 4 million square metres of 3.5 to 5 millimetres thick board. The estimated output of hardboard for the year ending 30 June 1955 was about 16,000 tons mostly from eucalypts, although casuarina and willow are also used.

The Argentine fibreboard plant employed 320 workers in 1955 and, because the industry is new and demand for its product is increasing, it may be expected that both employment and output will expand. Fibreboard in Argentina is used for interior finishing and furniture; the entire current and prospective output will probably be absorbed by the domestic market.

The estimated 1955 production of the two Brazilian factories is 4,200 tons of hardboard and 6,000 of insulating board. They are mainly used for building interiors and for furniture. In contrast to the development of the fibreboard industry in Argentina, where the aim is to produce for the domestic market alone, the plants in Brazil are expanding in order to enter the export market. Small shipments have been made to the United Kingdom, the United States and Western Germany. The industry looks to the Government for assistance in its trade problems, especially as gards equipment imports.

No fibreboard plants are yet reported from Chile, althou the importation of "wallboard" manufacturing equipment fr the United States was authorized by the Government in 1953. the meantime, machinery has been imported from Western G many for a plant with an annual capacity of 10,000 tons, whi is to begin operations in 1956 using *Pinus radiata* as a raw m terial. Fibreboard is imported into Chile from the Netherlan the United Kingdom and the United States. The domestic dema for fibreboard, for crating and building interiors, may be pected to improve when local supplies at lower prices beco available. The main prospective export market is in Argentina

Colombia has one operating chipboard factory, a fibreboa plant is under construction and plans have been drawn up an integrated paper pulp, hardboard, plywood and sawnwood m in the Magdalena River valley. The existing chipboard pla employs about 25 workers and 1954 output stood at 1,800 tons.

This factory is well located with respect to markets for product, but raw materials are not readily accessible. Vario tropical species of wood are utilized. The expansion of man facturing facilities taking place at present is expected to supp the domestic market and leave a balance for export. Hardboa is currently imported from Canada, Sweden and the United Stat the volume reaching 1,500 tons in 1954. About three-quarters the hardboard and chipboard consumption is for interior finishin

One fibreboard factory exists in Mexico, which has been oper ing since 1950, the raw material coming from some 34 tropic species, most of which are of low quality for timber use. Wi a capacity of 12,000 tons per year, the estimated 1954 outp reached 10,000 tons. The output is entirely of hardboard and large part of it is exported. The main export destination to da has been the United States with smaller volumes to El Salvad and Peru.

The possibilities of further development in fibreboard an chipboard plants in Latin America are extremely favourable. A already pointed out, investment costs are relatively low, appa ently almost all indigenous and exotic softwood and hardwoo species can be used and every country has an active or late demand for the products.

V. CONCLUSIONS

This short review of the current situation of the mechanic woodworking industries in Latin America is necessarily brief an incomplete. Over most of the region, statistics for forest industri and their output are still in an elementary stage. Even in highl developed regions, the task of collecting data on small and sca tered sawmills, for example, is far from easy. For the most par the figures which have been quoted in the preceding pages re resent informed estimates by those closely associated with th industry in the countries concerned. It is clear, however, that i most Latin American countries small-scale operations predom nate; large units with up-to-date equipment are exceptional, bein confined to areas where either a significant domestic demand ha grown up or an extensive export trade has been developed. I some countries, thoughtless exploitation of the forests has gon hand in hand with over-development of the sawmilling industr from the aspect of a continuity of raw material supply. In other sawmills and plywood plants have encountered difficulties arisin not from any over-all lack of raw materials, but from the i creasing distance of the raw material sources as forests have bee driven back from urban areas. Lack of developed communicatio has hampered both the acquisition of raw materials and the shi ment of wood products to consuming centres.

The region as a whole continues to be dependent on import wood products to an extent that is hardly consonant with the r gion's vast forest wealth. Moreover, having regard to the com plementary nature of these resources as between different cou

s and areas in Latin America, it is surprising that intra-
onal trade is not more highly developed.

ı recent years plywood technology has made rapid strides in
ope and North America, multiplying and diversifying the ap-
ations of this forest product. These findings must still be ap-
d in Latin America and potential new markets have yet to
created. Similarly, the fibreboard and chipboard industries
still in their infancy; though neither of these industries call
heavy capital investment, both can operate successfully on a
e range of raw materials and both yield products of a variety
able of calling new markets into existence at once. Efforts are
ıg made in a number of countries to modernize the existing
mill industries. These attempts must be intensified and ex-
ded to other countries if the region's mechanical woodworking industries are to make their potential contribution to the over-all economic development now taking place throughout Latin America. At the same time investment in the younger branches of the mechanical woodworking industries would appear to offer prospects of a considerable saving in foreign exchange and to safeguard, through integration, the economic operation of existing forest industries.

Co-ordination within the region of national development plans for forest industries seems eminently desirable. Thus the efforts which are being made to ensure a well-balanced development in Central America will continue to be regarded with great interest. The success of this programme is bound to provide a stimulus for similar co-ordinated action on the part of neighbouring countries elsewhere in Latin America.

Part II

GOVERNMENT INCOME AND EXPENDITURE
1947-1954

INTRODUCTION

ne of the most important economic developments of
century, and in particular of the last twenty-five
rs, has been the utilization of fiscal policy for the
inment of ever-broader objectives of economic and
ial policy. In contrast to the more orthodox public
ance of the nineteenth century, which aimed at the
est possible level of State expenditure and at minimum
erference by the official sector in the free play of
vate interests, more recent decades are characterized
active State participation in the economy with a view
weakening violent cyclical fluctuations, maintaining
level of employment and, more recently, promoting
growth of income, correcting maladjustments in cer-
n parts of the economic mechanism and even pro-
cing a distribution of the national income more in
rmony with present social ideals. Logically this am-
fication of the public sector's functions has been ac-
npanied by a formidable increase in State expenditure,
the tax burden and in the public debt, all of which
general characteristics of the fiscal structure to-day
all the countries of the world and particularly in those
ich are highly industrialized.

The outstanding trends of the world economy were
lected from the very beginning in Latin America.
e after another, almost all the countries in the region
ve in recent decades carried out taxation and fiscal
forms designed to modernize former systems and to
ovide Governments with the resources needed for their
er-growing functions. Simultaneously, activities of an
onomic and social nature have been increasing their
are of public expenditure, until they have come to form
very substantial proportion of State budgets. This
ocess is still at what might be termed its "formative
ge". Broadly speaking, modifications and reforms in
xation systems and the structure of expenditure have
t been established in accordance with plans previously
rmulated for long-term requirements, but rather have
en carried out as emergency measures to meet changing
nditions in the economy or in social policy. Hence
is not uncommon to find many countries where, along-
de undoubted technical advances and well-conceived
stems for the administration of certain taxes, specific
ws and anachronisms weaken the economic use of fiscal
licy.

The main reason for the new trends in Latin America's
cal policy has been, and continues to be, that the State
ust now play an active role in the promotion of eco-
mic development. Development policy is nothing new
the Latin American environment, since it has been a
ncern of Governments for many decades; nevertheless,
e current conditions for this process oblige the public
ctor to assume new responsibilities and to carry out
sks which in other regions and at other times were
the hands of private enterprise. In this case it is not
question of a political or social ideology, but of the
olution over a long period of a series of concrete
cisions which have had to be reconciled with real exist-
g conditions. As a result, in recent years a firmer
criterion of the need for economic development has been established and there is a trend towards more orderly and technical government action in this sphere. For example, because basic installations and, in many cases, private capital are lacking, Governments have been obliged to undertake the construction of railways, highways, ports, electric energy plants and irrigation works. Similarly, the need for Governments to expand or establish the various services required for economic development has been caused by the growth of the economy. As a consequence, State expenditure on health, education, research and technological training services, communications and, in general, on the branches of public administration connected with economic life, has multiplied or is tending to expand.

But in Latin America the role of the State in promoting conditions favourable to economic development is not restricted to the above expenditures. Its functions are even more important when considered from the angle of the need to increase national savings and to channel investment towards productive activities. A serious responsibility for the adequate distribution of social expenditure rests upon the public sector. This is because the most suitable investments from the aspect of the over-all economy do not always coincide with the interests or inclinations of the private investor in countries where consumption has absorbed and tends to absorb a growing proportion of income, where an exaggerated propensity for luxury consumption or for non-productive investment exists among social groups with a saving capacity, or where a substantial share of total savings usually emigrates abroad. Fiscal measures are thought to be among the most suitable, if not the best, instruments for accomplishing social aims. They may be used to create incentives for those activities considered as most suitable, to apply higher taxation to activities of the opposite kind, or simply to attract a share of private income to the public sector by means of taxation or loans, in order to invest it in the most appropriate manner. Each one of these methods has been used in the different Latin American countries. All, or practically all, the pertinent legislation includes fiscal incentives and penalties based on economic desirability and the practice of attracting savings for direct or indirect public investment is becoming widespread. A powerful influence in favour of this last practice has been exerted by the need to obtain capital and credit for specific private activities, particularly in agriculture and industry, which it has been thought necessary to encourage and which have no other satisfactory financial resources than those of State credit institutions.

The pressure, in terms of the need for a steady expansion of State functions and expenditure, has not only been exerted by economic requirements. In most cases, the demands of social welfare have, with no lesser intensity, taken an increasing share of public expenditure. Perhaps the outstanding example in practically all the countries is the appearance and expansion of social security and welfare agencies, which have often required heavy public outlays. Housing problems for workers and certain sections of the middle class—as a result of industrialization, of external and internal migration and of the growth of urban centres—have frequently implied a charge on the State, given the economic and institutional conditions which make this type of investment unattractive to private capital.

A substantial additional burden for the governments of countries which have experienced inflation has been the policy of maintaining relatively low prices for essential commodities and for certain goods and services of prime necessity, such as fuels, transport and some raw materials required for consumer industries. In some cases, the subsidies granted for these purposes have been absorbing increasing portions of the budget, as compared with smaller increments in current expenditure on administration and public investment.

Because of these circumstances, the problem of fiscal expenditure has acquired greater importance in economic policy. The establishment of priorities for the different requirements has become more difficult and demands of an economic nature often appear to compete for a greater share in the budget with those of social welfare, or administrative expenditure with funds devoted to investment. The absence of over-all programmes for economic development in almost all the countries has aggravated the situation. A comparative analysis of public expenditure in the Latin American countries thus appears desirable, as the starting point for more ambitious research on the subject. A knowledge of the way in which fiscal resources have been invested during recent years and an examination, as far as it is possible, of the circumstances which apparently determined their distribution, are both indispensable for any attempt to discover certain criteria of evaluation which might serve as points of reference for public expenditure.

This problem is closely related to the broader one of the structure of taxation in Latin America. The most rapid solution of meeting the growing requirements of the State appears to lie in an expansion of the tax system. There may well be broad possibilities for increasing fiscal revenue in most of the countries. Nevertheless, before giving any opinion on this point, it is essential to study individual tax systems and to consider their effects upon the different sectors of the economy. The aims of fiscal policy in relation to economic development are not in fact confined to raising public investment, but rather have the broad objective of stimulating a more rational use of the aggregate community's resources, with a view to increasing the national product. Therefore, in addition to the possibilities of increasing taxation, the validity of specific obstacles of an economic and poiltical nature, which have to date hindered more definite action by the public sector, must also be examined. A first limitation is the low level of *per capita* income and the impossibility or undesirability of reducing the consumption capacity of broad sectors of the population. As regards the higher-income groups, the major obstacle appears to be the danger that the incidence of very high taxation will discourage private investment or will cause excessive outflows of capital. Political limitations are imposed by the resistance to higher taxes in certain, and often powerful sectors, by the absence of tax consciousness on th
part of public opinion which facilitates evasion and b
the inadequate technical level of the public administr
tion for the efficient handling of fiscal resources an
expenditure.

Because public saving (assuming it to be the differenc
between ordinary revenue and current State expenditure
is insufficient to cover governmental requirements, r
course to the public debt would appear to be the mo
logical procedure to meet investment requirements. I
reality, numerous economic and institutional factors hav
limited the use and the efficacy of this instrument, bot
as regards the external and internal debt. In contras
Governments have frequently used loans of an infla
tionary nature. Although such loans have not been th
only cause of inflation and their use has at times bee
determined by very compelling factors, it seems clea
that the pressure of fiscal expenditure has contribute
on a large scale to the inflation in most countries an
that this method has often been used as the easies
alternative to the adoption of stricter taxation measures
Inflation in turn has had a negative effect on financia
markets, has increasingly hindered the normal use o
public credit and at the same time has created ne
situations which have prejudiced economic developmen
policy by obliging the State to raise expenditure or b
reducing its real income. A study of inflation in Lati
America is outside the scope of part II, but the role o
inflationary methods in financing the public sector canno
be excluded from an analysis of fiscal policy.

Exchange policy presents a similar problem. The eco
nomic phenomena related to that policy exceed the limit
of fiscal action as such. Nevertheless, in so far as th
repercussions of exchange policy on the fiscal system
can be appreciated, particularly in those cases where
such policy was used to replace methods considered mor
orthodox by the treasury, reference must be made t
them so that a broader view of the framework of publi
finances can be obtained.

The subsequent examination of fiscal policy in the
Latin American countries is a preliminary study of the
aspects mentioned in the above paragraphs, especially
with regard to their effects upon economic development
This initial effort has met with many serious limitations
particularly because of the poverty of statistical materia
and the individual classification criteria which hinder
comparability between the different countries. Nevertheless, it was felt essential to carry out this first analysis
with the deficient technical elements available.

The conclusions or appreciations to be drawn from the
analysis will doubtless be very preliminary, but they
reveal important aspects of fiscal policy. In particular,
they may awaken interest in this subject and lead to new
studies and to improvements in statistical methods,
enabling subsequent progress of greater significance to
be made.[1]

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[1] The sixth session of the Economic Commission for Latin
America recommended to the secretariat that research be continued on the monetary, fiscal and exchange policies necessary for
the execution of development programmes (resolution 81 (VI)).
In accordance with this recommendation, the secretariat is broadening its studies on these aspects and the results will be available
in due course.

Chapter I

PUBLIC EXPENDITURE

DISTRIBUTION OF PUBLIC EXPENDITURE BY ADMINISTRATIVE LEVELS

Before analysing the composition and trends of public penditure in Latin America, the role and relative im- rtance of the various political and administrative levels st be defined, as well as those of the autonomous titutions whose significance as instruments of economic icy throughout the region has increased in recent rs.

The way in which public expenditure is distributed ong the central government, the states, departments or ovinces and the municipalities varies considerably in ferent countries. (See table 1.) In Brazil, outlays by central government represent only about 50 per cent the aggregate, while the relative importance of the tes is apparently increasing. In Colombia and Ecuador, share of departmental governments and municipalities s risen to a third of the total during recent years. At opposite extreme are Chile and Peru, where central vernment expenditure accounts for some 95 per cent more of the consolidated budget.[1] There are other ses—Argentina, Mexico and Venezuela—which pro- le examples of an intermediate position. Among the untries considered here, Argentina and Brazil alone ow any trend towards decentralization. In Chile, Peru d the Central American Republics, expenditure is ready concentrated to a very marked degree in the nds of the central authority; in Colombia, Mexico and, a lesser extent, Ecuador, there has been a visible in- ease in the percentage corresponding to the central vernment during the last few years.[2]

The centralization of public expenditure appears to ar as much relation to the tax structure in each country to the form of political organization. In Brazil, where e states have substantial sources of revenue—sales xes, for example, which provide the highest yields thin the tax system—any increment in these resources fects their relative position. In Mexico, however, where e principal taxes are assigned to the federal authority, cal governments have declined in importance. In Vene- ela, where fiscal receipts have been increased mainly items corresponding to the central government, such revenue from hydrocarbons and income tax, the share the states in expenditure—moderate as it is—has been aintained only through transfers from the national easury.

Table 1. Latin America: Public expenditure[a] distributed by government levels in selected countries

(Percentages)

Country	Years	Central government[b]	Provincial or state government	Municipalities
Argentina[c]	1945	82	12	6
	1950	78	14	8
	1953	78	15	7
Brazil	1947	54	38	8
	1953	50	41	9
	1954	50	42	8
Chile	1945	96	—	4
	1951	94	—	6
	1952	96	—	4
Colombia	1945	54	28	18
	1951	64	20	15
	1952	61	20	19
Ecuador	1950	64	33	3
	1952	64	33	3
	1953	66	30	4
Mexico[d]	1945	75	20	5
	1951	79	18	3
Peru	1947	96	—	4
	1952	98	—	2
	1953	97	—	2
Venezuela	1952-53	84	16	...
	1953-54	84	16	...

Sources: For Argentina, Colombia and Chile: Official data; for Brazil: *Statistical Yearbooks;* for Ecuador: Central Bank of Ecuador; for Mexico: The Mexican Government and the International Bank for Reconstruction and Development, *The Economic Development of Mexico,* Mexico 1953; for Peru: *Banco Central de la Reserva* and Ministry of Finance; for Venezuela: Ministry of Finance.

[a] Gross expenditure, including transfers between levels.

[b] Excluding autonomous institutions.

[c] For provincial governments and municipalities, figures based on the budgets.

[d] Excluding autonomous institutions and the Dirección General de Pensiones.

The position of the municipalities, whose receipts are mainly derived from taxes on trade and consumption, is quite different. The over-all trend is towards a concentration of greater revenue, and therefore of a greater volume of public expenditure, in the larger cities; those municipalities which have not developed economically depend thus to an increasing degree on meeting their requirements through the budget of the central government or through subsidies.

The distribution of public expenditure by territorial levels also has an important bearing on its nature and composition. Setting aside non-economic considerations, there are public, social and cultural services which are traditionally the responsibility of provincial governments and municipalities. For many reasons that need not be enumerated here, these services are usually carried out and administered more efficiently at the local level than by the central government. A necessary condition for the competent performance of these functions is that the local authorities be provided with the fiscal resources required for their rational fulfilment, by means of either some type of taxation or transfers of funds from the central authority. Nevertheless, decentralization of expenditure may lead to an exaggerated shift towards current outlays and non-reproductive investment, unless it is accompanied by adequate co-ordination between the different political and administrative agencies.

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[1] Despite the absence of statistics, it is thought that the Central nerican countries are in a position similar to that of Chile. See so *Taxation policy and economic development in Central Amer- z,* chapter II (as yet unpublished), by ECLA and the Fiscal vision of the United Nations.

[2] In Venezuela, under a constitutional ruling, the national treas- y is obliged to transfer a fixed portion of budget revenue to the ates.

This type of situation may arise for a number of reasons. One may be greater pressure exerted on local governments by immediate and short-term requirements in the spheres of administration and social welfare, since the management and solution of economic matters—especially those relating to development—are usually considered in the main as a responsibility of the central authorities. Another is that, even in those cases where regional or local authorities pay greater attention to economic development, their field of action is limited by their territorial jurisdiction, the size of their markets and the limited funds available. A third reason, and the most important, is that when public expenditure is more decentralized the decisions as to priorities and objectives are shared by many authorities, each with its own views, which implies less unity of purpose and, possibly, less efficient utilization of government resources.

This does not mean that general agreement always exists within a central government or that satisfactory methods are used for establishing priorities. Nor does it signify that, to establish such priorities, the concentration of public expenditure is a prerequisite. There is no doubt that development and administrative co-ordination programmes are also lacking among central authorities. The point is that these problems become more acute with increased decentralization of expenditure and there is a greater possibility that public resources will be inefficiently utilized from the standpoint of economic development; co-ordination between the central government and regional or local authorities becomes even more important for an adequate investment policy in these cases.

The problem is different for those autonomous institutions or independent organizations which carry out specific activities with treasury allotments and sometimes with other additional resources. This category usually includes agencies of very different kinds, such as: public enterprises of a commercial or industrial nature; institutions for building houses or executing certain types of public works; agencies designed to regulate productive activities or markets for certain products; agricultural or industrial credit establishments; development corporations; and social security institutes. The degree and form of government participation in their resources and administration are also very different. Broadly speaking, this type of organization has arisen and developed first because some functions require operating, financing, administrative and accounting methods which are different from those normally used in public administration; secondly, because government departments may be prohibited from undertaking certain activities or cannot satisfactorily accomplish them. Credit and banking transactions, participation in mixed-capital enterprises, commercial and industrial operations, in general, are som examples.

The study of fiscal policy and its effects upon ec nomic development leads at once to a consideration o those institutions which the State normally entrusts wit certain public investment responsibilities, such as age cies with specific tasks (housing, electricity, etc.), officia credit banks and, most particularly, development corpo rations and similar agencies. When these institution operate exclusively with funds from the national budge the fact that the investments are channelled through a autonomous agency makes no substantial difference i terms of their effects. In contrast, when these agencie mobilize other types of financial resources, through th attraction of private domestic savings or the receipt o foreign loans, the effects on the economy are more pro found than in the case of other types of investment. Thi is so not only because of the size of their operations ove and above official allotments, but also through their ef fects on the formation of savings, on the channelling o private investments and on the country's internationa accounts. Any complete study of fiscal policy should in clude an analysis of the operations, and in particular o the expenditure, of autonomous institutions of this na ture. But sufficient data for this purpose were not avail able and, as a consequence, only those funds contribute by the government sector for the activities of such agen cies have been included here.

Another group of autonomous institutions which mus figure in any study of fiscal policy consists of those act ing as an instrument for the transfer of income. In some cases, these transfers are made through exchange policy or the purchase or sales prices for certain products; they often have direct repercussions upon the income and ex penditure of the State or upon its capital account. In other cases, the transfers are made directly, as in the instance of the special agencies for amortizing the public debt and of social security institutions.

These last are of special significance when analysing government operations. Among the accounts included here, social security payments have alone been considered and obligatory private contributions have been excluded. A more complete analysis might cover total receipts and expenditures of this type within the whole public sector, since obligatory private contributions may be compared to taxes. Another major aspect of social security as an instrument of fiscal policy is that of the type of investment made by such institutions. In some countries, their reserves form an important share of the funds available on the market for official securities. In recent years, public investment—as well as part of current expenditure during the last few years—has been financed in Argentina with loans from social security funds. In most cases, social security funds and institutes make direct investments, thus representing a very significant element in capital formation and the composition of investment.

The importance of autonomous institutions has increased considerably in recent years, in regard to both their number and the proportion of the fiscal investments channelled through them.[3] It should also be noted that

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[3] The increased number of these institutions has created problems of public administration, particularly as regards the co-ordination of their activities with those of the central government.

(Continued on following page)

rge share of the credit obtained from international ncing bodies has been allocated to these institutions.

THE GROWTH OF PUBLIC EXPENDITURE

ublic expenditure in all the countries of Latin Amer- rose considerably during the war and it has con- ed to grow throughout the last ten years. Since 1945, outlays of central governments have at least doubled in some cases have multiplied several times at cur- prices. A comparison based on current values nat- y lacks significance, in view of the great variations e prices of goods and services that have taken place he different countries. Table 2 shows the real increases in public expenditure as compared with 1947, and the varying degrees of growth within the general trend. Expenditure in Argentina, having risen 35 per cent in 1951, declined thereafter until by 1953 it was 25 per cent above the 1947 figure. The substantial increase in Brazil by 1954 amounted to some 64 per cent above the base year and the increment would have been greater still if both local and central governments had been included. In Colombia, Ecuador, El Salvador, Peru and Venezuela, real expenditure almost doubled; increases in Chile and Mexico were somewhat smaller. Whereas the figures for Guatemala rose by only 30 per cent, there was a sharper upward trend in the other Central American countries—Costa Rica, Honduras and Nicaragua.

Table 2. Latin America: Indices of the growth of public expenditure at constant prices

(1947 = 100)

ry	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*
ral government									
gentina	97	100	128	117	119	135	126	125	...
azil	...	100	107	140	148	140	141	163	164
ile	96	100	96	93	106	115	140	145	...
lombia	92	100	97	91	94	121	136	171	179
sta Rica	...	100	122	119	100	115	180	218	241
uador[a]	...	...	...	...	100	118	111	138	186
Salvador	...	100	119	119	147	193	209	216	197
atemala[b]	...	100	128	123	100	107	128	131	130
nduras[b]	...	100	137	111	127	162	210	248	263
xico	84	100	105	107	109	116	157	141	163
caragua[b]	...	100	109	133	98	114	176	244	289
ru	...	100	101	113	148	159	190	199	194
nezuela[b]	92	100	137	174	161	181	191	188	197
l and central governments									
gentina	94	100	121	111	113	129	120	118	...
azil	...	100	107	130	152	153	163	170	174
ile	95	100	96	95	108	118	141	146	...
lombia	92	100	99	101	102	117	137	161	...
sta Rica	...	...	...	...	...	...	...	...	...
uador[a]	...	...	...	...	100	113	111	133	...
Salvador	...	...	...	...	...	...	...	...	...
atemala[b]	...	...	...	...	...	...	...	...	...
nduras[b]	...	...	...	...	...	...	...	...	...
xico	...	...	...	...	...	...	...	...	...
caragua[b]	...	...	...	...	...	...	...	...	...
ru	...	100	101	112	146	157	187	196	...
nezuela[b]	...	...	...	...	...	...	...	...	...

urces: See table 1; for local and central governments in Argentina, the estimates are based on annual budgets.

ndex represents 1950 = 100.

For the fiscal years between 1946/47 and 1953/54 inclusive.

verage *per capita* statistics of public expenditure give etter illustration than aggregate figures of the role ed by the Government in the provision of services the population. State expenditure has risen in all ntries at a much rapid rate than demographic growth. s reflects the expansion in the public sector's activi- although in some cases—that of Argentina in particular—there are fluctuations from one year to another. (See table 3.)

However, there are still important differences in the proportion of the general services provided by individual Governments. While the technical limitations to this type of comparison must be borne in mind, table 4 indicates *per capita* expenditure, in 1950 dollars, and its relationship to *per capita* income. Ecuador, El Salvador, Guatemala, Honduras, Nicaragua and Peru appear with the lowest figures, despite the considerable increase in public expenditure that has taken place in all these countries over the last ten years. Conversely, Costa Rica shows a relatively high percentage, attributable to the

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ntinued from previous page)

e of these problems are of particular interest to fiscal policy, n view of their nature they are beyond the scope of this study. rtheless, much of what has been said in the preceding pages he need for close co-ordination between the different admin- tive levels in an economic development policy would also apply

Table 3. Latin America: Per capita public expenditure in selected countries

(In national currency at 1950 prices)

Country	*1945*	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*
Central government									
Argentina	642	583	589	738	657	650	719	658	636
Brazil	...	...	360	375	482	498	459	450	508
Chile	3,764	3,622	3,703	3,492	3,333	3,739	3,982	4,842	4,862
Colombia	...	49	52	49	45	46	58	63	78
Costa Rica	...	...	135	160	152	125	138	210	246
Ecuador	...	...	...	...	...	181	208	189	228
El Salvador	...	...	37	43	43	52	66	69	69
Guatemala[a]	...	...	17	21	19	17	16	19	19
Honduras[a]	...	...	15	20	16	17	21	27	31
Mexico	104	99	114	117	114	113	117	155	136
Nicaragua[a]	...	...	61	65	76	55	62	92	124
Peru	...	...	173	171	188	241	254	298	306
Venezuela[a]	251	261	347	428	386	421	430	412	417
Local and central governments									
Argentina		...	...	...	...	...	...	...	...
Brazil		...	662	695	824	936	924	962	979
Chile		3,698	3,815	3,606	3,530	3,940	4,223	5,041	5,074
Colombia		77	82	79	79	78	88	100	115
Costa Rica		...	...	...	...	...	...	...	...
Ecuador		...	...	...	...	281	310	296	340
El Salvador		...	...	...	...	...	...	...	...
Guatemala[a]		...	...	...	...	...	...	...	...
Honduras[a]		...	...	...	...	...	...	...	...
Mexico		...	...	...	...	...	...	...	...
Nicaragua[a]		...	...	...	...	...	...	...	...
Peru		...	180	178	194	248	261	305	314
Venezuela[a]		...	...	...	...	...	...	440	445

Sources: See table 1. Population figures were taken from the United Nations, *Monthly Bulletin Statistics.*

[a] For the fiscal years comprised between 1946/47 and 1953/54.

broad field of social activities which has for many years been a feature of its government. The high figures for Argentina and Chile undoubtedly correspond to their greater degree of development. Venezuela's position is the result of the substantial revenue accruing to the public sector, which has increased budget expenditure to an exceptional degree and has expanded the services and investment of the State.

With very few exceptions, the relationship between real public expenditure and the real gross product has remained constant or has shown an upward trend over the last ten years. Only in Guatemala are their statistical indications of a decline in the share of the central government. In Argentina and Brazil the tendency is for the public sector to play a more important part; this is also true of Venezuela, although government expenditure in this case has grown less rapidly than the gross product during more recent years. In Mexico and Colombia, the coefficient rose considerably in 1954, despite a drop in the percentage ratio for some individual years.

The size of governmental participation in the gross product and the recent evolution of this share are due to several factors. In Venezuela, the cause lay in the large-scale expansion of petroleum production and the greater share of the State in the revenue from that industry, which has increased the resources of the public sector and, consequently, its expenditure. Among the determinants in Colombia and other coffee-producing countries was the increase in either income tax or export surcharges which followed higher coffee prices. In addition, some of these countries have had recourse to ternal and internal loans. Greater public expenditu was possible in Honduras and Costa Rica because t

Table 4. Latin America: Per capita public expenditure, 1953

(Local and central governments)

Country	*National currency (At 1950 prices)*	*Dollars[a] at 1950 prices*	*Percentag of gross income*
Argentina	800	127	23
Brazil	979	39	19
Chile	5,074	60	21
Colombia	115	43	18
Costa Rica[b]	246	42	20
Ecuador	340	22	16
El Salvador[b]	69	23	13
Guatemala[b]	19	19	11
Honduras[b]	31	16	9
Mexico	242	30	15[c]
Nicaragua[b]	124	18	12
Peru	314	21	16
Venezuela	445	127	20

Sources: See table 1.

[a] To express public expenditure of the Latin American count in dollars at 1950 prices, the rates used were the same as th used by ECLA for converting to dollars the national income ures expressed in each country's currency. See also *Econo Survey of Latin America,* 1951-52, *op. cit.* p. 32.

[b] Central government only.

[c] Estimate.

system was reorganized during the last decade and, particular, because higher taxes were levied on the ana-exporting companies. In Mexico, the growth of eral expenditure was mainly financed by higher taxation, distributed over different types of taxes. In Chile, the public sector maintained its share of the gross product not only by an increase in taxes, but also by resorting to bank loans. (See table 5.)

Table 5. Latin America: Public expenditure as a percentage of the gross national product in selected countries

Country	*Central government*			*Local and central governments*		
	1945	*1950*	*1954*	*1945*	*1950*	*1954*
Argentina[a]	19	19	19[b]	22	23	23[b]
Brazil	9[c]	10	10	16[c]	19	19
Chile	17	15	17[b]	17	16	17[b]
Colombia	8	9	12	15	14	18[b]
Costa Rica	...	10	...	...	...	...
Ecuador[a]	...	8	12	...	11	14
El Salvador	9[c]	10	11	...	...	...
Guatemala	13[d]	10[e]	11[f]	...	...	...
Honduras	6[d]	8[e]	12[f]	...	...	...
Mexico	7	7	9[a]	11	12	15[a]
Nicaragua	8[d]	10[e]	...	...	...	...
Peru[a]	13[c]	13	15	14[c]	14	15
Venezuela	16[g]	22[e]	18[f]	...	...	21[b]

Source: See table 1. The percentages were calculated by relating public expenditure to the gross product at market prices, both expressed in current values for each year.

[a] Preliminary figures.

[b] Calendar year 1953, obtained from an average of the data for the fiscal years 1952/53 and 1953/54.

[c] Calendar year 1947.

[d] Fiscal year 1946/47.

[e] Fiscal year 1950/51.

[f] Fiscal year 1953/54.

[g] Fiscal year 1945/46.

he different components of public expenditure, cur- outlays, transfer payments and public investment e shown varying rates of growth. Current expenditure udes both administrative expenses and payments for inary educational, health, social welfare and defence services. Its relative importance within total expenditure shows a tendency to decrease. This trend has become particularly apparent since 1950, although there were signs of it at an earlier date in some countries. (See table 6.) Exceptions to this general rule are found in Argen-

Table 6. Latin America: Distribution of public expenditure within the central government

(Percentages)

ry	*Current prices*			*Transfer payments*			***Investment***		
	1945	*1950*	*1954*	*1945*	*1950*	*1954*	*1945*	*1950*	*1954*
ntina	40	38	44[a]	25	35	35[a]	35	27	21[a]
il	...	47	48	...	26	26	...	27	26
e	49	54	54[a]	22	26	27[a]	29	20	19[a]
mbia	47	50	52[b]	27	20	18[b]	26	30	30[b]
a Rica	64[c]	70	57	20[c]	14	16	16[c]	16	27
dor	...	48	57	...	19	26	...	24	26
Salvador	65[c]	67	65	6[c]	5	5	29[c]	29	30
temala[d]	56	59	59	5	6	3	39	35	38
duras[d]	76	72	60	—	—	—	24	28	40
ico[f]	43	43	34	16	19	27	35	34	38
ragua[d]	81	78	67	1	2	1	18	21	33
	81[c]	61	59	12[c]	24	18	7[c]	15	23
zuela[e]	58	48	54	13	12	13	28	39	33

urces: See table 1, with exception of Mexico for which official statistics were used.

1953.

1952.

1947.

1946/47, 1949/50 and 1953/54.

Apart from the three categories in the table, available statistics consider as "unclassified" some 5.8 per cent of the expenditure for , 3.0 per cent for 1950 and 1.4 per cent for 1954.

945/46, 1950/51 and 1953/54.

tina, Chile, Ecuador and Guatemala, where the participation of current expenditure has increased, and in Venezuela, where the coefficient declined between 1950 and 1952 and rose again in 1954.

Transfer payments here include central government contributions to provincial governments and municipalities, payment of interest on the public debt, contributions to social security and similar institutions, retirement and old-age pensions, welfare assistance, and subsidies paid directly by the treasury. The heterogeneous nature of this category is reflected in the diversity of its trends in the various countries. Thus, its relative position within total expenditure, while remaining constant in Brazil and Venezuela, shows a substantial increase in other countries such as Argentina, Chile and Mexico. Conversely, the share of transfer payments declines in Central America because of the stability or reduction in absolute terms of interest payments on the public debt as against an increase in budgeted expenditure.

As a general rule, investments follow an upward trend, except in some of the larger countries. The increases in public expenditure have been predominantly used for capital formation, this tendency being particularly marked in countries such as those of Central America which have only recently embarked upon a policy of economic development. Despite the greater expenditure under the heading of transfer payments, investment in Mexico has continued to rise within the whole. On the other hand, a similar phenomenon in Chile has occasioned a sharp fall in the proportion of the budget devoted to capital formation. The drop in public investment was particularly pronounced in Argentina, from 35 per cent of total expenditure in 1945 to 21 per cent in 1954; whereas there was relative stability in Brazil. The case of Venezuela is different, because between 1945 and 1952 the proportion of public investment within total central government expenditure rose from 28 to 39 per cent, at the expense of current expenditure, while the trend has been reversed in recent years, when the investment coefficient has declined, falling to 33 per cent by 1954.

These aggregate figures scarcely provide more than the broad outlines of the real distribution of public expenditure; in consequence, very few conclusions as to the utilization of State resources for purposes of economic policy can be drawn from them. Expenditure within each of these three broad categories will therefore be analysed in greater detail in the following pages, for those countries where sufficient data are available.

III. THE COMPOSITION OF CURRENT EXPENDITURE

Current expenditure has been divided into four categories for the purposes of this analysis, i.e., general administration, national defence, education and health.

The first group includes all remunerations and purchases of non-personal goods and services for the departments composing the ordinary machinery of government; it comprises the legislature and the different ministries in charge of internal order, foreign affairs and tax administration, as well as salaries and normal expenditure on dependencies of an economic nature (agriculture, trade, industry, etc.). Where it has proved impossible in the case of these last to distinguish current expend ture from investment, their aggregate outlays have bee classified under the heading of investment.[4] This metho implies an overestimate and does not allow any satisfactory comparison of the different categories.

Although expenditure on general administration ha increased, just as it has for the other categories, in absolute terms (both in nominal and real values), its shar of total current expenditure shows differing trends. I Colombia, El Salvador, Guatemala, Nicaragua and Venezuela, the percentages in 1954 were lower than ten year previously, although in two cases—Guatemala and Venezuela—they have risen since 1950. By contrast, the proportion in Argentina, Brazil, Chile and Costa Rica ha tended to increase, the upward movement for Argentin having been particularly marked. (See table 7.) No economic assessment of this type of expenditure can b made simply on the basis of general statistics. The increase may have originated either in expanded and improved public services or in the more equitable remuneration of civil servants and would represent real progress in public administration. But it might also reflec the employment of more personnel and bureaucrati expenditure unaccompanied—for various justified or unjustified reasons—by greater productivity in the governmental sector.

This situation may be more readily understood if th number of public administration employees is compare with the total active population and, in particular, tha employed in services. Table 8 follows this procedur with the addition of a further column to show the result of this comparison when persons employed in agricu tural activities are excluded from the active population this is done to overcome the deficiencies as regar rural man-power in the region's demographic statistic The United Kingdom has been selected as a referenc point outside Latin America because it provides the mos complete data on this subject and because its publi administration is considered to be one of the most eff cient and has one of the highest ratios in relation to th active population. It will be seen that Argentina has th highest ratio for government employment, followed b Guatemala, Bolivia, Venezuela and Chile. Argentina ha higher public employment figures than the United Kingdom in all cases, while in the other four countries onl statistics relating to the active population excluding agr culture and to services in general are higher. This lea to the assumption that in Latin America—particularl in the five countries concerned—the coefficient of curre administrative outlays may be over-estimated, implyin that there are other alternatives for a more productiv distribution of expenditure in the public sector.

Because of its special nature, defence expenditure usually classified apart. The inclusion of current expense such as pay or allowances, rations, purchases of equipment and other similar outlays constitutes no problem On the other hand, it has been discussed whether militar installations should be classified under investment. Th prevailing practice is to treat them as current accou expenditure, since they make no contribution to a cou try's productive assets in the sense of providing good

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[4] This method had to be used in the case of the Central Ame ican countries because of the way in which their statistics a presented.

Table 7. Latin America: Distribution of current expenditure

(Percentages)

try	General Administration			Defence			Education			Health		
	1945	1950	1954	1945	1950	1954	1945	1950	1954	1945	1950	1954
entina	41	45	56[a]	37	32	23[a]	17	18	16[a]	5	5	5[a]
il[b]	54	53	59	37	34	33	9	13	8	...	...	...
e[d]	35	37	38	27	26	23	24	23	22	14	14	17
mbia[c]	56	52	51	13	15	21	16	15	16	15	18	11
a Rica[d]	38	43	44	14	10	12	37	35	34	11	12	11
ador[e]	...	34	40	...	29	40	...	25	16	...	12	4
Salvador[d]	53	54	51	17	17	15	18	18	22	12	12	13
temala[d]	48	41	44	19	18	16	20	25	26	13	15	15
duras[f]	44	45	54	37	29	16	12	17	16	7	9	14
ragua[f]	63	61	60	18	23	15	16	13	18	3	3	7
ezuela[g]	71	55	61	12	20	16	10	13	11	7	12	12

urces: See tabel 1.
1953.
General administration includes certain transfers. Defence and education include some capital account expenditure.
The entire public sector. The data in the last column, in each case, correspond to 1952.
The data in the first column, in each case, correspond to 1947.
Includes some capital account expenditure. Health includes social welfare expenses.
Data for the fiscal years 1946/47, 1949/50 and 1953/54.
Data for the fiscal years 1945/46, 1949/50 and 1953/54.

Table 8. Latin America: Population employed in public administration[a]

	Public administration employees	Column A as a percentage of total active population	Column A as a percentage of the non-agricultural labour force	Column A as a percentage of the population employed in services
	(A)	(B)	(C)	(D)
Argentina	520,000	7	9	15
Bolivia	27,600	2	7	15
Brazil	306,080	2	5	8
Chile	107,569	5	7	13
Colombia	77,000	2	5	9
Costa Rica	6,000	2	5	8
Cuba	76,073	4	7	11
Dominican Republic	19,785	2	5	16
Ecuador	28,552	2	5	12
El Salvador	14,558	2	6	12
Guatemala	17,500	2	12	16
Haiti	12,000	1	4	8
Honduras	5,300	1	4	10
Mexico	188,105	2	5	11
Nicaragua	5,200	2	5	9
Panama	4,900	2	4	7
Paraguay	10,000	2	5	10
Peru	41,625	2	5	9
Venezuela	95,535	6	10	17
United Kingdom	*1,350,000*	*6*	*6*	*13*

Sources: Argentina: figures from the Instituto de Prevision Social; Bolivia, Colombia, Costa Rica, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay and Peru: estimates based on the last population census; Brazil, Cuba, the Dominican Republic, Ecuador, El Salvador, Mexico and Venezuela: figures from the last population census; Chile: estimates by the Corporación de Fomento.

[a] Excluding defence, education and health services.

l services that can be added to the volume of national ome.[5] Nevertheless, wherever possible in this study, itary installations have been separated and have been ssed as a special group within investment.

Although other reasons exist which may justify defence expenditure, an increase or an excessive share of such outlays in a budget represents, from the strictly economic standpoint, a withdrawal of resources from the formation of reproductive capital or from social and cultural improvements. The relative magnitude of defence budgets in some countries of the Old World has at times

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See *Budgetary Structure and Classification of Government Acnts* (ST/ECA/8), United Nations publication, Sales No.: 1.XVI.3, February 1951, pp. 16-17.

made it almost possible for their economies to grow.[6] In Latin America, partly because armed forces have increased and partly because modern equipment costs more, not only has defence expenditure risen in absolute terms, but in some countries its relative share in the budget has also expanded. (See again table 7.)

Some circles believe that all expenditure on education and health should be classified under investment, since these services contribute to the formation and improvement of human capital, which is as necessary as physical capital to economic development. In accordance with a somewhat narrower criterion, only investments of a physical nature have been considered as such in this study, although a separate grouping has been established within current expenditure so that investments in education and health can be considered individually.

The sums allocated to education in the different Latin American countries absorb from 8 per cent to over one-third of current expenditure; those devoted to health, with some exceptions, tend to be somewhat lower, as wa seen in table 7. In most cases there have been fe variations in the relative share of such expenditure du ing the last ten years, but there seems to have been greater increase in the Central American countries, ex cluding Costa Rica, than elsewhere in the region. should be recalled, however, that Costa Rica's expend ture on education has been very high for a long time pas

To obtain a proper estimate of the distribution c ordinary expenditure, a comparison should be mad of the *per capita* disbursements on each of the principa items. Expenditure on general administration represent the major outlay in all the countries and is followed b that on defence, except in Chile and some Central Amer ican Republics where outlays on education rank second The trend in the distribution of expenditure during th post-war years shows that the heaviest *per capita* in creases in almost all the countries occurred in outlay on education and health, but disbursements for genera administration expanded more in Argentina and Cost Rica, while the increment in defence expenditure wa more rapid in Ecuador and Venezuela. (See table 9.)

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[6] See *Economic Survey of Europe, 1953* (E/ECE/174), United Nations publication, Sales No.: 1954.II.E.2, chapter 8.

Table 9. Latin America: Current expenditure in selected countries

(In units of national currency at constant prices)

Country	*Year*	*Total*	*General Administration*	*Defence*	*Education*	*Health*
Argentina	1947	267	114	91	43	19
	1953	268	122	89	43	13
Percentage variation		—	7	—2	—	—32
Brazil[a]	1947	289	156	108	25	...
	1953	387	211	129	47	...
Percentage variation		34	35	19	88	...
Chile	1947	1,976	742	541	414	278
	1953[c]	2,599	1,020	548	582	449
Percentage variation		31	37	1	40	61
Colombia	1947	22	10	7	2	3
	1952	33	14	12	4	3
Percentage variation		50	40	71	100	...
Costa Rica	1947	92	35	13	34	10
	1954	132	58	15	45	14
Percentage variation		45	66	15	32	40
Ecuador[b]	1950	103	35	30	25	13
	1954	141	56	56	22	6
Percentage variation		37	60	87	—12	154
El Salvador	1947	23	12	4	4	3
	1954	37	19	5	8	5
Percentage variation		61	58	25	100	67
Guatemala[d]	1947	9	4	2	2	1
	1954	12	5	2	3	2
Percentage variation		33	25	—	50	100
Honduras[d]	1947	11	5	4	1	1
	1954	19	10	3	3	3
Percentage variation		73	100	25	200	200
Nicaragua[d]	1947	53	32	11	8	2
	1954	77	46	12	14	5
Percentage variation		45	44	9	75	150
Venezuela[d]	1947	179	110	27	22	20
	1953	226	138	37	25	26
Percentage variation		26	25	37	13	30

Sources: See tables 1 and 8.

[a] General Administration includes transfer payments. Defence and education include some capital expenditure. Expenditure on health included under education.

[b] Includes capital account expenditure.

[c] Preliminary.

[d] Includes the fiscal years 1947/48 and 1953/54.

THE NATURE AND EVOLUTION OF TRANSFER PAYMENTS

Disbursements of different kinds are grouped under heading of transfer payments within the budgets of tral governments. Their common feature is that they not constitute an element of final consumption by neral administrative services but represent a shift of rchasing power to other sectors of the community.

Some transfer payments can be made among underings which form part of the public sector. This hapns in the case of subsidies and of budgetary contribuns by the central government to provincial governnts and municipalities or to decentralized agencies forming public services which are normally a governntal function. Transfer payments of this type are very portant in some countries. In Venezuela, for instance, dgetary contributions to the states represent over 90 cent of all transfer payments. In Costa Rica, subsidies to municipalities have risen during the last ten years and their relative share of aggregate transfer payments has grown from 17 to 55 per cent. Something similar has occurred in El Salvador, where, in relation to 1947, such transfers were 57 per cent higher in 1950 and still 30 per cent greater in 1954.

In Chile, Ecuador and Peru, aid of this type granted to non-profit-making organizations is particularly interesting. Such agencies include teaching, welfare and social assistance institutions, which provide public and cultural services but are organized on an autonomous basis and do not form part of the government machinery. In some cases they are simply private groups, such as universities, colleges, official and private welfare agencies and institutions for the protection of children. The importance of this type of transfer payment has increased over the last ten years, having risen in Chile and Ecuador from 6 to 9 per cent of total transfer payments and in Peru from 35 to 39 per cent. (See table 10.)

Table 10. Latin America: Direct transfer payments by the central government in selected countries

(Percentages)

	Financial payments (Public debt)			*Social security*			*Subsidies*		
ntry	*1945*	*1950*	*1954*	*1945*	*1950*	*1954*	*1945*	*1950*	*1954*
entina	41	15	15[a]	15	24	28[a]	4	9	5[a]
zil	27[b]	15	7	28[b]	34	41	21[b]	19	15
le	39	15	12[a]	38	48	58[a]	—	24	16[a]
ombia	62	63	71[c]	—	—	—	—	—	—
ta Rica	73	60	33	10	18	11	—	—	—
ador	...	20	17	—	—	—	...	61	74
Salvador	78	43	70	—	—	—	—	—	—
atemala[d]	82	65	39	18	35	61	—	—	—
nduras[d]	—	—	—	—	—	—	—	—	—
xico	21	15	13	13	15	12	41	50	62
aragua[d]	100	100	100	—	—	—	—	—	—
u	39[b]	26	31	18[b]	20	28	6[b]	20	2
ezuela	4	3	3	4	2	4	—	—	—

	Grants-in-aid			*Local governments*			*Sundries*		
	1945	*1950*	*1954*	*1945*	*1950*	*1954*	*1945*	*1950*	*1954*
entina	15	17	16[a]	24	35	36[a]	1	—	—
zil	12[b]	13	17	12[b]	19	20	—	—	—
le	6	10	9	12	—	1[a]	5	3	4[a]
ombia	—	—	—	38	37	29[c]	—	—	—
ta Rica	—	—	—	17	22	55	—	—	—
ador	...	19	9	—	—	—	—	—	—
Salvador	—	—	—	22	57	30	—	—	—
atemala[d]	—	—	—	—	—	—	—	—	—
nduras[d]	—	—	—	—	—	—	—	—	—
xico	—	—	—	—	—	—	25	20	13
aragua[d]	—	—	—	—	—	—	—	—	—
u	35[b]	34	39	2[b]	—	—	—	—	—
nezuela[e]	—	1	—	96	93	93	—	—	—

ources: See tables 1 and 8.

1953.

1947.

1952.

Fiscal years 1946/47, 1949/50 and 1953/54.

Fiscal years 1945/46, 1949/50 and 1953/54.

In Argentina, the proportion of transfer payments de to provincial and local governments rose from per cent in 1945 to 35 per cent in 1950 and to 36 per t in 1953. Transfer payments under this heading in Argentine pesos amounted to 195 millions in 1945, to 1,356 millions in 1950 and to 2,577 millions in 1953. The principal reason for the increase lies in the reform of the fiscal system at the end of the 'forties; the central government assumed responsibility for the administration of several taxes which had formerly been handled by the provinces and municipalities, and the corresponding payments were later transferred to these levels. Transfer payments in the form of subsidies to non-profit agencies are also important in Argentina and are classified in table 10 as "grants-in-aid". The recipients were mainly universities or educational and welfare institutions, but this category also includes other autonomous agencies responsible for marketing products such as meat, cereals and yerba mate. Some of these subsidies originated as direct allotments from expenditure in the national budget, but the largest share in recent years has come from the legal participation of these agencies in the revenue from certain taxes.

Brazil also demonstrates a considerable increase in the contributions of the Federal Government to states and municipalities, as well as in the grants-in-aid to non-profit-making institutions which perform public services. In 1954, these two items represented 37 per cent of all central government transfer payments.

The grouping of these disbursements under the general heading of transfer payments is justified because, given the autonomy in expenditure enjoyed by such institutions, no prior assessment can be made either of the shares to be used for consumption and for investment respectively, or of the composition of such expenditure. Any consolidation of the public sector's accounts would have to make this distinction, and the various items would have to be grouped according to the final destination of the expenditure.

Even more important, from the economic viewpoint, are those operations which really imply a transfer of revenue from the public to the private sector, such as payments of interest on the public debt, pensions, social security contributions and subsidies to specific productive activities.

The predominant trend in most countries during the last ten years has been towards a relative reduction in the interest paid on the debt in the central government budget.[7] Moreover, in several cases—Argentina, Brazil, Chile and Costa Rica, for example—a decline is apparent in the *per capita* expenditure earmarked for this service. In Mexico and Peru there has been a fairly large *per capita* increase. With regard to Venezuela, amortization paid during the fiscal year contributed to the high figure for 1953-54.

The more interesting aspects of the debt will be examined elsewhere;[8] but it is pertinent to note here that the financial burden originating in the government debt represents a relatively unimportant factor in the budgets of the Latin American countries mentioned above. There are two main reasons. Firstly, governments have recently made little use of the traditional sources of public credit, frequently resorting to other, and less orthodox, means of financing the deficit (principally Central Bank issues), largely because domestic financial markets have been weakened by inflation. Secondly, a substantial part o the newly-contracted debt has been channelled through the autonomous agencies responsible for paying the interest. Hence the over-all financial incidence of the public debt is far greater than that revealed by central government statistics.

State expenditure on welfare and social security has shown increases of some significance in almost all the countries listed in table 11. Nevertheless, two further important aspects should be considered. First, with the exception of Chile and, to a lesser degree, Argentina, the sums spent by Governments, in terms of *per capita* contribution, are small in relation to other items in the budgets. (See again table 8.) This is probably because social security is a relatively new institution in many of the Latin American countries and, in many cases, because its sphere of activity does not yet extend to all economic sectors or to all geographic areas. Secondly, there are other types of transfer payments that have grown more rapidly than welfare outlays, with the result in some countries that there has been no appreciable increase in the participation of welfare in aggregate current expenditure.

Particularly notable in some countries is the substantial increase which has taken place in expenditure o subsidies for public utility enterprises and private economic activities. This type of transfer payment has been of special importance in Argentina and in other countries which have experienced a period of prolonged inflation, such as Brazil, Chile and possibly Mexico. The main objective has been the maintenance of low prices and tariffs for essential consumer goods or services o public interest, losses by individuals and corporate bodies being offset by direct state subsidies. In other cases subsidies have been granted to cover the deficits of state undertakings which, although they operate at a loss, are considered to be of national importance. Assistance o this latter kind has also been employed in other countries

In Chile, direct subsidies to public utility companies and to the private sector—particularly transport—were of little significance in 1945, but they absorbed some 10 per cent of all transfer payments in 1954 and represented a substantial *per capita* outlay. In Mexico, the item o subsidies and grants-in-aid is the largest within the category of transfer payments and has also shown the greatest *per capita* increase over the last ten years.

Subsidies granted through the budget in Argentina absorbed 9 per cent of transfer payments in 1950 (340 million pesos at current prices), declining to 5 per cent (389 millions in 1953). The year of maximum expenditure on this item was 1951, when it amounted to 964 millions. The main beneficiaries have been the meat packing plants, railways, airline companies and the Instituto Argentino de Promoción del Intercambio (IAPI). Nevertheless, the picture would still be incomplete without a mention of two very important events Railway operation has in recent years shown a heavy deficit which has not been covered by the Government except in 1947. It may be assumed that the losses were not offset during the rest of the period or that compensation was made through other channels. Most of the subsidies to private activities were not provided directly by the central government budget, but were paid through IAPI, which, in turn, was financed with profits accruing

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[7] In almost all the countries shown in tables 10 and 11, the figures refer to interest payments, since amortization is included among financial investments. Exceptions to the rule are Peru and Venezuela, where it was not possible to separate interest from amortization.

[8] See chapter III, part II.

Table 11. Latin America: Per capita transfer payments in selected countries

(In units of national currency at 1950 prices)

untry	Years	Total	Financial payments	Social security	Subsidies	Grants-in-aid	Local governments	Sundries
rgentina	1947	159	41	19	11	29	59	—
	1953	214	33	59	11	34	77	—
Percentage variation.		34	—20	210	—	17	30	—
razil	1947	86	23	25	18	8	10	2
	1954	136	10	55	20	22	27	2
Percentage variation.		58	—57	120	11	175	170	—
hile	1947	783	238	292	51	65	76	61
	1953	1,344	157	783	219	123	12	50
Percentage variation.		71	—34	168	329	89	—84	—18
olombia	1947	10	6	...	—	—	4	—
	1952	11	8	...	—	—	3	—
Percentage variation.		10	33	...	—	—	—25	—
osta Rica	1947	29	20	3	—	—	6	—
	1954	36	12	4	—	—	20	—
Percentage variation.		24	—40	33	—	—	233	—
cuador	1950	35	7	...	21	7	—	—
	1954	76	12	...	56	7	—	—
Percentage variation.		117	71	...	167	—	—	—
l Salvador	1947	2.5	2	—	—	—	0.5	—
	1954	2.8	2	—	—	—	0.8	—
Percentage variation.		12	—	—	—	—	80	—
lexico	1947	15	2	2	8	—	—	3
	1954	44	6	5	29	—	—	4
Percentage variation.		193	200	150	262	—	—	33
icaragua[a]	1947	0.8	0.8	—	—	—	—	—
	1954	0.8	0.8	—	—	—	—	—
Percentage variation.		—	—	—	—	—	—	—
eru	1947	21	8	4	1	7	1	—
	1954	53	16	15	1	20	1	—
Percentage variation.		152	100	275	—	185	—	—
enezuela	1947	53	2	2	—	—	49	—
	1954	55	2	2	—	—	51	—
Percentage variation.		3	—	—	—	—	4	—

Sources: See tables 1 and 8.

[a] Includes the fiscal years 1947/48 and 1953/54.

rom foreign trade operations and with loans from the Central Bank. This situation has contributed to inflation and to the critical position of Argentina's balance of ayments. The subject will be studied in greater detail when foreign exchange policy is examined elsewhere.[9]

In Brazil, subsidies have also increased in absolute erms, although their relative share has declined. Nevertheless, both in this country and in Chile, heavy subsidies have been granted during recent years which were channelled indirectly through the exchange system. The study and analysis of these transfer payments and of their effects upon the domestic economy and on development will be found in the chapter dealing with exchange policy.

V. PUBLIC INVESTMENT

The main contribution of the public sector to the romotion of economic development is made through he budget items devoted to investment. In so far as hese investments represent a net increment in the productive capital of a country, they cause direct growth f the national product. They can also exert an influence y providing the economy with basic services and installations, which, in addition to their own contribution to he expansion of production and revenue, also provide an incentive to private investment. Similarly, the creation of more satisfactory educational, health and housing conditions not only helps to improve the material situation and the productivity of the human factor, but also prepares the physical and spiritual requisites for a more active and better-trained participation of the population in the future economy and for the increasing application of technological progress to productive activities. But, as in the case of the private sector, public investments may be made which do not contribute to the growth of the economy. At the government level, public funds are sometimes spent on installations whose justification is doubtful or on luxury facilities which, while they may be desirable for other reasons, add little or nothing to capital formation. Hence, in order to assess the share of the government sector in economic development, it does not suffice to refer briefly to aggregate figures for public investment; they must be broken down according to their nature and final purpose.

Primarily, a distinction should be drawn between real investment and financial investment. The former represents the purchase of entirely new assets, which are added to those already in existence. Financial investment consists of the acquisition of previously produced assets and, while it may signify investment from the aspect of the public sector, it adds nothing to a country's stock of capital. This is true, for instance, of public debt amortization, of the purchase of already existing private securities, of the acquisition of buildings, or of payments to private individuals for their shares in nationalized enterprises. Financial investment has, wherever possible, been set apart in this study, since the primary objective is to assess the government contribution to capital formation. Nevertheless, in most cases it has not been possible to separate financial investments from real investments. An illustration might be the purchase of buildings to be demolished or utilized for the construction of public works, when this information is not specified in official accounts.

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[9] See chapter IV, part II.

A second distinction has been made between direct and indirect investment. The former relates to works carried out by the public sector itself, while indirect investment embraces loans granted to private interests for purposes of real asset formation.

Direct investment, which constitutes a high percentage of the total in the Latin American countries, may be carried out by the Government itself or by specialized autonomous institutions. Wherever the nature of the work done by these institutions could be determined, the corresponding budget allotments have been classified under the item relating to the activity undertaken, for example, agriculture, transport, etc. Where this was impossible, public contributions to these agencies have been grouped in one column. These specialized institutions sometimes have extra-budgetary resources at their disposal, such as revenue of their own or internal or external loans, which form part of the public sector's resources devoted to capital formation. Even so, in order to maintain the homogeneity of the figures, the standard procedure has been to include in government investment accounts only those budget allotments set aside for these institutions.

Indirect investment is usually made through special agencies, such as agricultural, industrial, mining and housing credit banks. In a few cases, Governments have granted funds to institutions which make no direct contribution to production, as, for instance, certain mortgage credit institutions, but this is the exception rather than the rule. Budgetary funds for credit institutions have been included in the statistics as government investment, any other resources which these establishments may have used having been disregarded.

The method adopted has, however, caused certain problems. Development corporations in some countries are both credit institutions and agencies carrying out specific tasks and it has rarely been possible to separate the share corresponding to each activity. To overcome this difficulty, the entire government contribution to these institutions has been considered as direct investment,[10] except in those cases where it could be verified that credit activities represented most of their operations, as is true of the Banco Nacional do Desenvolvimento Economico in Brazil.

There has been an outstanding increase in public investment during the last ten years in Latin America. (See table 12.) With the single exception of Chile, all the countries selected show an expansion of fiscal capital formation. *Per capita* investment provides even clearer evidence of the degree of growth and its relationship to other budgetary items. In Brazil, the *per capita* increment amounted to 81 per cent between 1947 and 1954, in Colombia to 15 per cent, in Ecuador to 8, in Mexico to 29, in Peru to 233 and in Venezuela to 82 per cent. The most spectacular increases, in general terms, appear in Central America, because in the main it is only since the Second World War that the countries in this area have embarked on a development policy with active government participation. Even in Costa Rica—where the main objective of fiscal policy in 1948-52 was to place the treasury on a sound basis after the civil war—investment has increased considerably since 1953.[11] In Argentina, where in 1947 central government investments had declined in relation to 1945, the increase was only 6 per cent from 1947 to 1953.[12] Chile is the one country where government investment has decreased in recent years, the cause being the inflationary spiral during this period. This situation has, in the fiscal field, been manifest in the disproportionate increase of ordinary expenditure and of transfer payments, as well as in the inability of the tax system to provide a volume of revenue sufficient to meet additional outlays.

Nevertheless, the expansion of investment has not implied that its relative position within the whole budget has risen in the same proportion, as current account expenditure and transfer payments have also shown heavy increases, even in those countries where Governments have made considerable efforts towards capital formation. It might thus be enquired whether no possibility exists of even more active participation of the public sector in capital formation, through judicious economies in other types of expenditure.

Most government investments in Latin America are made directly.[13] The credit activities of autonomous institutions, although significant in some countries, represent only a minor share of government activity. This is partly because at the present stage of development, notwithstanding the great differences of degree, greater attention has had to be paid to basic installations. As may be seen below, investment in transport accounts for the largest share of public investment in almost all the countries.

In order to appraise the nature of investments in relation to economic development, they have been classified in three broad categories. The first, entitled "Investment in productive activities", embraces all investments which contribute directly to productive capital formation, such as agricultural development, transport, energy and funds for the autonomous development agencies. The

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[10] For instance, in Guatemala to the Instituto de Fomento de la Producción, in Honduras to the Banco Nacional de Fomento, in Mexico to the Nacional Financiera, and in Venezuela to the Corporación Venezolana de Fomento.

[11] The statistics for Central America are exaggerated, since they include current account outlays by the Ministries of Economy, Public Works, Agriculture, Education and Health. It was not possible in these countries to distinguish administration expenditure from investment and the budgets of these ministries thus had to be grouped under the latter head.

[12] It should be recalled that official welfare foundations and, to a lesser degree, social security institutions have made substantial investments during this period and such investments are not included in central government statistics.

[13] As noted earlier, some investments in development corporations—classified as direct investment in table 12—are used for loans to the private sector.

Table 12. Latin America: Real investment by central governments in selected countries

ntry	*Years*	*Investment (Millions of units of national currency at current prices)*	*Direct investment*	*Percentage*	*Indirect investment*	*Percentage*	*Per capita investment constant currency*	*Percentage increase in per capita investment 1954/45 (constant currency)*
gentina	1947	2,272	2,253	99	19	1	142	
	1950	3,027	2,963	98	64	2	178	
	1953	2,839	2,821	99	18	1	151	6
zil	1947	3,248	3,179	98	68	2	67	
	1950	7,047	7,035	100	12	0	136	
	1954	6,928	5,292	76	1,636	24	121	81
ile	1947	5,194	4,911	95	283	5	940	
	1950	4,342	4,170	96	172	4	715	
	1954	5,147	5,002	97	144	3	788	—16
ombia	1947	210	172	82	39	18	20	
	1952	229	198	86	31	14	19	
	1954	287					23	15
sta Rica	1947	...	16	...	...	—	22	
	1950	...	16	...	...	—	20	
	1954	...	64	...	...	—	70	224
uador	1950	...	139		...	—	44	
	1953	...	189	...	...	—	54	
	1954	...	284		...	—	80	8
Salvador	1947	...	19		...	—	11	
	1950	...	25	...	...	—	13	
	1954	...	36		...	—	17	61
atemala	1947	...	17		...	—	6	
	1949	...	18	...	...	—	7	
	1953	...	22		...	—	7	11
nduras[a]	1946	...	5		...	—	4	
	1949	...	7	...	...	—	4	
	1953	...	20		...	—	13	253
xico	1947	1,060	—	—	—	—	44	
	1949	936	—	—	—	—	37	
	1954	1,663	—	—	—	—	58	29
caragua[a]	1946	...	8	...	...	—	11	
	1949	...	8	...	...	—	8	
	1953	...	49	...	...	—	47	341
ru	1947	133	133	100	...	—	16	
	1950	314	292	93	22	7	37	
	1954	619	599	97	19	3	67	233
nezuela[a]	1946	334	305	91	28	8	73	
	1949	634	628	99	6	1	128	
	1953	749	749	100	0	...	134	82

Sources: See tables 1 and 8.
[a] Fiscal years.

cond, which has been called "Investment of a social ture", covers those public works which tend to aid e human factor by improving educational, health and ousing conditions. The third category, entitled "others", cludes investments which have a less direct bearing the development of the economy, such as military stallations, urbanization and buildings of a different pe from those included in the other categories. Apart om the arbitrary element inherent in the classification self, the available data are not absolutely precise; comrisons between countries are therefore of doubtful lue. Even so, some interesting conclusions can be drawn om an analysis of table 13.

In Argentina, investment in productive activities, which 1947 constituted only a third of aggregate direct instment, raised its share to 57 per cent in 1953. The ost significant increases under this heading are found funds devoted to transport, road, rail, ports, port rvices and airports. Larger contributions have also been made to agriculture and energy. Social investment continued to absorb a virtually constant share of the total, with a higher percentage for health services. However, schools, colleges, hospitals, clinics, etc., could not be distinguished from buildings of other kinds and are consequently included under buildings in general. Funds for housing show a low coefficient, but it should be recalled that from 1950 to 1952 budgetary funds for this purpose were much higher than in 1953, and that, in addition, a great deal of housing is included under the item of buildings or has been erected by other types of institution (foundations and social security institutions). During the whole period, buildings and military installations together, despite a decline in the latter during 1953, absorbed a high percentage of direct investment.

Capital formation by the Federal Government in Brazil has been directed mainly towards productive activities, particularly transport. Agricultural investment could not be separated from the total. As for allotments to autono-

Table 13. Latin America: Direct investment by central governments in selected countries

(Percentages as a total of direct investment)

		In productive activities					*Social investment*				*Others*		
Country	*Years*	*Total*	*Agriculture*	*Transport*	*Energy*	*Autonomous institutions*	*Total*	*Education*	*Health*	*Housing*	*Total*	*Urban building, etc.*	*Defence*
Argentina..	1947	33	—	31	2	—	8	—	8[a]	—	59	16	43
	1950	43	2	35	6	—	8	—	6[a]	2	49	29	20
	1953	57	8	43	6	—	7	—	6[a]	1	36	25	11
Brazil	1947	90	—	66	—	24	—	—	—	—	10	10	...
	1950	81	—	78	—	3	1	—	—	1	18	18	...
	1953	85	—	84	—	1	1	—	—	1	14	14	...
	1954	84	—	80	—	4	1	—	—	1	15	15	...
Chile	1947	56	3	25	—	28	8	2	6	1	36	18	18
	1950	69	4	29	—	36	11	2	8	1	20	13	7
	1953	66	3	28	—	35	11	2	8	1	23	19	4
Colombia...	1947	70	9	55	6	—	16	—	16	—	14	14	...
	1950	67	8	41	1	17	9	—	9	—	24	24	...
	1952	60	11	45	—	4	19	—	19	—	21	21	...
Mexico ...	1947	79	16	49	14	—	13.7	1.3	12.4		7.3	5.5	1.8
	1951	81	20	39	22	—	14.3	3.4	9.8	1.1	4.0	3.4	0.6
Peru	1947	58	6	16	36	—	4	—	4	—	38	38	—
	1950	54	6	27	21	—	7	—	7	—	39	39	—
	1953	53	13	31	9	—	3	—	3		44	44	—
	1954	50	11	26	13	—	2	—	2	—	48	48	—
Venezuela[b]..	1947	47	9	24	—	14	49	11	26	12	3	—	2
	1950	67	4	49	—	14	26	—	15	3	7	2	5
	1953	67	9	47	—	11	21	10	11	—	10	2	7

Sources: Official figures and ECLA estimates. For Mexico: the Mexican Government and International Bank, *op. cit.*

[a] Comprises only sewerage and drinking water. Other types of investment are included under the item of building.

[b] Fiscal years.

mous institutions, these were assigned principally to undertakings of an industrial nature: Petróleos Brasileiros, the Volta Redonda steel mill, the Fabrica Nacional de Motores, the Companhia Nacional de Alcalis, the Hidroelectrica São Francisco and the Companhia Vale do Rio Doce. Social investment appears with a very low share of the total. Here again, it has been impossible to separate educational and health installations from building in general, which has a relatively high coefficient. It should be noted that in Brazil the states also devote a large share of their expenditure to purposes of capital formation, within which public works of a social nature occupy an important place. In 1954, some 22 per cent of State expenditure and 21 per cent of municipal outlays represented real investment.

For Chile, the figures in table 13 do not include total direct investment because the proportions financed through bond issues (13.8 per cent in 1947 and 7.0 per cent in 1954) are unclassified in the official accounts. As for those which are classified, it may be seen that investment in productive activities has risen considerably, increasing from 56 per cent in 1947 to 66 per cent in 1953. Although there has been an increment in the share of transport, the growth of productive investment is almost entirely due to contributions made to autonomous institutions, particularly to the Corporación de Fomento, which has, during the years under review, carried out large-scale projects in electricity and steel making. Despite the proportional increase in public health installations, there has been no major increment in investments of a social nature because of the relative low expenditure on housing.[14] Perhaps the figures relating to other building include social investment items and have thus led to an over-estimate. In any event, investment of a military and non-economic type has dropped in relative terms from 36 to 23 per cent over the last ten years.

In Colombia, there has been a decline in the proportion of the total represented by investment in productive activities, which had formerly constituted a high percentage. On the other hand, the share of expenditure on building has increased, although this item includes some investments of a social nature. Official capital outlays on transport continue to be the largest item, although there has been an increase in expenditure on agriculture in recent years.

In Mexico, where the figures in table 13 cover the entire public sector, very high percentages have been invested in productive activities. Furthermore, they rose steadily between 1945 and 1951, reaching 81 per cent of the total in the latter year. While outlays on transport have declined somewhat, those on agriculture and energy have increased.[15] Social investment shows an upward trend, caused mainly by the construction of educational buildings and houses, while there has been a decline in public health items. Figures for military installations are particularly low in Mexico, and these investments, as well as those for other buildings and urbanization, fell from 7.3 to 4.0 per cent between 1945 and 1951.

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[14] It should be noted that the building of dwellings has constituted a very large item of investment by the autonomous social security institutions. As against 4.8 billion pesos, at 1950 prices, in funds allocated by the central government to the Instituto de la Vivienda during the period 1945-53, social security institutions made direct investments in this activity of about 8 billion pesos.

[15] Energy here includes electricity and petroleum.

In Peru, the figures reveal an evolution similar to olombia's, with a relative decrease in productive investent and an increment for buildings. Nevertheless, the rcentages for agriculture and transport within the tal represent fairly substantial increases.

Venezuelan investment in productive activities rose om 47 per cent in 1947-48 to 67 per cent in 1953-54, ainly because of the rapid growth of expenditure on ansport services. Investment in agriculture retained its are, while contributions to autonomous institutions deined. On the other hand, there was a sharp drop in ocial investment, which fell from 49 to 21 per cent. This eduction affects educational as much as public health stallations. With regard to housing, public accounts 1954 do not record any allotments for the institute in arge of this type of work, which was mainly financed ith credits from building enterprises. Investment in uilding improved its share of the total during the period, hile that for military installations rose from 2 to 7 per ent. This means that non-social and non-economic inestments represented a proportion of 3 per cent in 947-48 and 10 per cent in 1953-54.

As a rule, the marked trend in public expenditure in atin America has been towards raising investment in ctivities directly designed to foster production. Transort continues to be the main object of this type of overnment activity, although the importance of energy as also increased in many countries, particularly through he action of specialized official institutions. To a lesser egree, agricultural investment has followed a somewhat imilar course. Outlays of a social nature continue to bsorb a considerable share of public investment, alhough their relative importance has tended to decline n some cases. As for expenditure less closely related to conomic development, its relative share has decreased, with the exception of the one or two countries specifically mentioned above.

VI. PUBLIC EXPENDITURE IN RELATION TO THE WHOLE NATIONAL ECONOMY

The analysis of the effects of public expenditure upon the economy as a whole is a complex subject, which would require consideration of many elements not included in this study. Nevertheless, on the basis of the data contained in preceding pages, some remarks can be made which may help to clarify the functions of fiscal policy in relation to development problems.

Public expenditure not only represents a very substantial share of national income in quantitative terms, but, because of some of its intrinsic features, it also plays a unique role with respect to income variations. The relationship existing between government expenditure and national income in some Latin American countries is shown in table 4. The coefficient appears to be smaller—between 10 and 15 per cent—in Ecuador, Mexico, Peru and the Central American countries. The highest figures are registered in Argentina with 23 per cent, Venezuela with 21, Brazil with 19, Colombia with 18 and Chile with 17 per cent.

Apart from the relative importance of these amounts within aggregate national income and domestic demand, public expenditure has greater autonomy, since it depends principally on the independent decisions adopted at the national level. In fact, in countries such as those of Latin America, where the export sector is very largely responsible for the fluctuations of production and income, the decisions of the export sector in their turn depend on world market conditions. Because of their importance within aggregate income, exports thus tend to become the dynamic element in economic life, but the variations affecting their volume and price originate abroad. Production for the domestic market is planned on the basis of estimates of future national demand, which are strongly influenced by the prospects for those export activities whose specific importance within aggregate income is greatest. In addition, the internal effects of investment in production for domestic purposes are weakened by the fact that much of such investment consists of expenditure abroad, in the form of imports of capital goods and raw materials. Bearing in mind the existing differences in the evolution of the Latin American countries, investment in productive activities for domestic consumption in less highly developed countries has, broadly speaking, not attained the autonomous nature and dynamic role which characterize private investment in highly industrialized economies. On the other hand, public expenditure has no reason to be subject to foreign market conditions or to fluctuations in domestic demand; in this sense it enjoys autonomy because, within rational limits, economic authorities are at liberty to establish the volume of expenditure and, as a result, the funds devoted by the pbulic sector to the community's effective demand. It is true that a decline in production and income in other sectors can bring about a reduction in public revenue which obliges the Government to reduce its outlays, and this has frequently occurred in Latin America especially in countries which depend largely upon their foreign trade. In this case, the attitude of the authorities would reflect what was taking place in the rest of the economy. But such a situation is not inevitable, and, in fact, the public sector, by means of higher taxes or any of the known forms of indebtedness, is well able to maintain and even increase its expenditure when its current revenue is reduced. The policy of deficit spending consists essentially in this type of procedure and has more than once been employed in the Latin American countries.

To this autonomy of the public sector is added the circumstance that in this sector decisions are usually centralized in one or a few responsible agencies, whereas in private enterprise variations in expenditure and investment are the result of an infinite number of uncoordinated individual decisions. Hence public expenditure constitutes a dynamic element in the formation and magnitude of national income, on whose variations it can exert a decisive influence, just as it can neutralize—at least partially—the effects of fluctuations occurring in other sectors.

Modern fiscal policy, which is based on this fact, is thus a powerful instrument which requires extremely delicate handling. The nature and size of public expenditure can be utilized in a positive way—and in fact has been so used in Latin America—to offset inflationary pressure arising from international trade or, more frequently, to maintain adequate levels of employment and income when exports decline. In this way it helps to preserve a balanced position which is favourable to economic development. But an opposite effect is also possible. A contraction in public expenditure in times of recession has on more than one occasion sharpened the fall in income and provoked an unnecessary interruption in the process of growth. More frequent still have been instances where an exaggerated increase in public expenditure has occurred at times when the levels of income and the supply of goods and services made it inadvisable to expand purchasing power. In such cases the public sector has absorbed a higher share of aggregate available goods and services than it has been able to finance from ordinary fiscal income or from transfers of savings from the private to the public sector (measured by the proportion of the public debt in private hands). Inflationary pressure thus arises, which, if sustained, would seriously prejudice economic development.[16]

Development is as much influenced by the composition of public expenditure as by the general level of such outlays and their relationship to the other groups contributing to national income. The governmental sector distributes its resources between consumption and saving, in the same way as private individuals, and both categories of expenditure provide innumerable possibilities for the use of resources, which have different effects upon economic life.

Consumption expenditure by the public sector has been analysed in the foregoing sections for several countries of the region under the headings of both current account expenditure and transfer payments. It is unnecessary to repeat what has been said on the role which the different categories of outlay have played within the aggregate. An evaluation of the marginal utility of governmental services depends on the importance assigned to the various needs of the community. Even so, from the economic standpoint, certain criteria can be established as to the composition of public expenditure. From the economic point of view, it is clear that a broad field of action exists in some Latin American countries for a more rational distribution of current government expenditure.

Special reference should be made to the situation in some countries affected by inflation where particular significance has been acquired by those transfer payments or subsidies which maintain specific goods and services of an essential nature at prices lower than those prevailing on the market. The effect upon the redistribution of income, which was apparently the aim of this procedure, is open to discussion, but it is intimately linked with the tax structure of each country. With a progressive tax system, such transfer payments may cause a real improvement for lower-income groups. But in some Latin American countries which have suffered from prolonged inflation, the regressive nature of the tax system has tended to become more pronounced in recent years. As a result, it is highly doubtful whether these transfer payments have contributed towards a redistribution of income and it is very probable that the incidence of the subsidies is actually borne by those who receive them. When the need for greater financial resources to meet this growing item of expenditure has been met by persistent recourse to inflationary measures, and not by tax revenue, the burden is created by higher prices for the other non-subsidized products, which must also be borne by the consumer.

In addition to these aspects, transfer payments have had other unfavourable effects upon economic development. They have acted in certain countries as palliative measures which have retarded the adoption of sounder methods for attacking the causes of an unsuitable price structure. In some cases, they have artificially maintained very low prices for certain imports, discouraging domestic production and leading to exaggerated consumption which has affected the balance of payments. Everywhere they have been absorbing a continuously increasing share of public expenditure and have thus reduced government resources for capital formation. These statements do not imply that under certain conditions some type of subsidy may not be necessary, as a temporary measure to deal with a transient imbalance or to offset the effects of problems which could not be fully solved except at the cost of greater sacrifices. But the conversion of such measures into a permanent system may lead to undesirable consequences for the economy as a whole and for development in particular.

It seems to be an accepted principle today that one of the major public contributions to economic growth consists in attempting to increase the community's marginal rate of saving; in other words, one of the chief aims of fiscal policy in under-developed countries should be to channel a growing share of income increments towards capital formation. To achieve this objective, the State can use the tax system and budget expenditure as a means both of encouraging private savings and of enlarging its own contribution to investment. On this basis, it may be useful to examine briefly how the public sector has increased investment in the Latin American countries.

The contribution of the public sector to aggregate capital formation varies from one country to another. (See table 14.) In some cases, such as that of Mexico, public investment has contributed over 40 per cent of aggregate capital formation in recent years.[17] The figures for Argentina, Chile and Venezuela, although somewhat smaller, are also high. Except for certain isolated years, the share of the government sector in all countries has never fallen below 10 per cent. Its assistance has mainly taken the form of real direct investment, although by extending credit, the public sector has also contributed to the capital formation of private enterprises.

A comparison of the changes which have taken place in public investment and private investment during recent years is of particular interest. Figure I shows the behaviour of capital formation at constant prices for the public and private sectors, and aggregate investment. During 1945-47, the sharp upswing of capital formation in Argentina was entirely due to the private sector, as public investment declined during that period; the reverse occurred in the following year, but, if a slight rise in 1951 is excluded, since 1949 both public and private investment have followed a downward trend. The outstanding feature in Brazil was the neutralizing effect of public investment, which rose when private capital formation tended to decline and vice versa, within a general trend towards a higher aggregate level of investment. The decisive role of public investment should be noted le 14. Latin America: Gross investment and financing of private investment by the central government in selected countries

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[16] See chapter III of part II, and the *Economic Survey of Latin America, 1954* (E/CN.12/362/Rev.1), United Nations publication, Sales No.: 1955.II.G.1, chapter I, Part I.

[17] The figures include the entire public sector in Mexico.

(As percentages of total gross investment)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
entina:										
eal investment	42.0	25.7	15.4	27.5	23.9	20.8	23.2	21.6	22.2	...
inancing of private investment	4.6	1.6	0.2	0.1	0.1	0.4	0.5	0.3	0.2	...
TOTAL	46.6	27.3	15.6	27.6	24.0	21.2	23.7	21.9	22.4	...
zil:										
eal investment	...	...	8.7	10.0	16.8	19.5	13.4	8.8	12.0	9.1
inancing of private investment	...	...	0.2	0.0	0.0	0.0	0.0	0.3	2.6	2.9
TOTAL	—	—	8.9	10.0	16.8	19.5	13.4	9.1	14.6	12.0
le:										
eal investment	39.2	34.8	33.6	27.1	25.5	30.2	33.0	39.4	23.9	...
inancing of private investment	0.9	0.6	0.9	2.3	2.0	1.3	1.5	1.0	0.7	...
TOTAL	40.1	35.4	35.5	29.4	27.5	31.5	34.5	40.4	24.6	...
ombia:										
eal investment	2.2	4.7	4.6	6.0	10.4	10.0	15.3	13.8	—	—
inancing of private investment	—	0.8	1.0	1.3	1.3	0.8	1.1	1.5	—	—
TOTAL	2.2	5.5	5.6	7.3	11.7	10.8	16.4	15.3	18.7	23.7
duras:										
eal investment	19.4	15.5	12.3	13.3	12.0	14.7	16.0	9.4	...	...
xico:[a]										
eal investment	...	35.4	36.4	37.3	40.0	47.0	38.2	42.2	43.0	48.1
ezuela:[b]										
eal investment	...	...	56.6	18.0	19.5	35.9	33.9	25.2	24.4	...
inancing of private investment	...	...	5.2	1.6	0.9	0.2	0.3	0.2	0.0	...
TOTAL	36.8	22.3	61.8	19.6	20.4	36.1	34.2	25.4	24.4	...

ources: See tables 1 and 8.

The entire public sector.

The fiscal years were averaged to compare them with data for civil years.

the case of Colombia. During the last eight years, real volume of private investment has remained nost constant, with the exception of a sharp fall in 49; conversely, public capital formation has moved adily upwards, practically without interruption, proding the sole basis for the aggregate increase in national vestment. In Chile, the two sectors have been almost ually responsible for the stationary level of capital rmation between 1945 and 1954. Public investment Mexico has been the major determinant of the rising nd—not very pronounced, but steady—in total capital rmation during the last ten years. A similar pattern evident in Venezuela, where private investment has ried sharply from one year to another, apparently rough the influence of the investments made by the troleum companies, while public capital formation has oved steadily upwards, particularly between 1945 and 49; since 1952, however, the private sector has made e chief contribution since 1952 to the increase in gregate capital formation. (See Figure I.)

The influence of official investments upon the gross oduct is related to the type of investment made. When ey are mainly devoted to productive activities, a quan- ative increment in available goods may be expected er a fairly short period, according to whether the oduct-capital ratio in each case is high or low. In con- ast, social investment has only an indirect influence on an increase in the product, or has a very low pro- ctivity per unit of capital as is true of investment in ucation, public health and housing. This factor partly plains the different results obtained in selected countries from public investment. In Mexico, for instance, in addition to favourable weather conditions, investments in agriculture have contributed to the substantial increase in rural production during recent years. In Argentina, on the contrary, where investments for non-productive activities have been the largest, the rate of growth of the gross product has been much slower, and in some sectors—particularly agriculture and livestock—there has been a recession in relation to previous years.[18] While no claim is made that official investment is the only factor to be considered in both cases, its influence has without doubt been significant in the recent economic growth of these two countries.

Apart from direct investment and the provision of credit to the private sector, a Government can encourage capital formation through its demand for goods and services. The more it spends money within the country—that is, the lower its propensity to import—the stronger will be the incentives to produce the goods required. The variety of government purchases is very great, but, in view of their size, they can help to create an effective demand that is sufficient to induce private capital to invest in new activities or to expand existing installations. This fact acquires a certain practical significance because private sectors in some countries have criticized—not without reason—the excessive official propensity to import, or the official choice of foreign suppliers based

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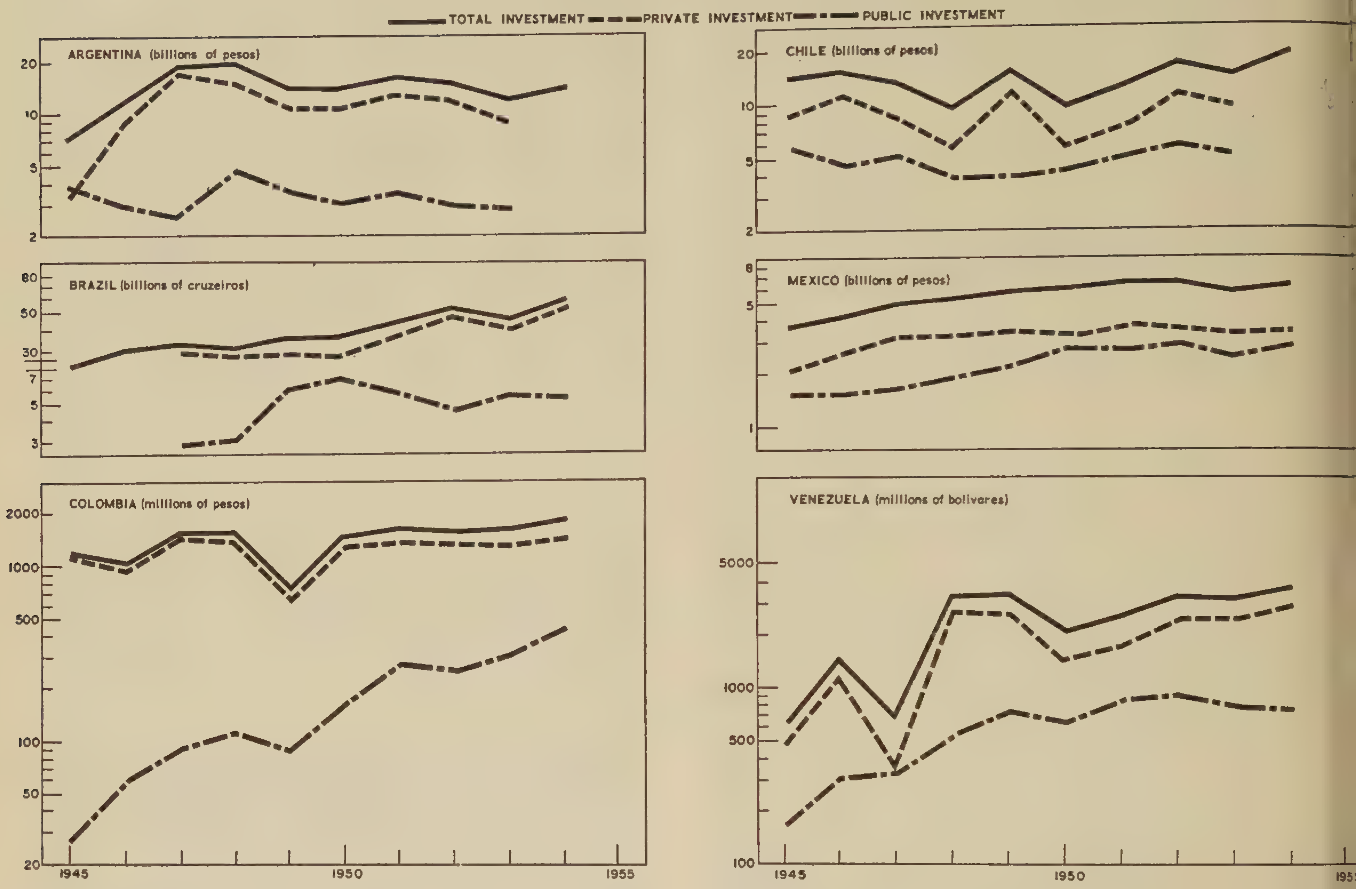
[18] See "The situation in Argentina and the new economic policy", *Economic Bulletin for Latin America*, Vol. I, No. 1, *op. cit.*, p. 26 *et seq.*

Figure I

LATIN AMERICA: COMPOSITION OF TOTAL GROSS INVESTMENT

(At constant 1950 prices)

Semi-logarithmic scale



on very small differences in price, without due regard to the indirect effects of government purchases upon capital formation.

Competition between the Government and the private entrepreneur, with its effects upon the latter's investment decisions, is another important aspect of the influence of public expenditure upon the whole economy. Government competition may make itself felt in two ways: (*a*) through the acquisition of productive resources, particularly man-power and technicians; and (*b*) through the sale on the market of goods and services which are produced by the private sector. The latter proceeding appears to have little importance in general terms. Official investment in Latin America has been mainly directed towards the establishment of basic installations: means of transport, irrigation works, etc. Although in electric power and petroleum industries, there is—at least in some countries—a pronounced trend towards public ownership of the enterprise, individual cases would have to be studied before any opinion could be given, because their character as the public services or basic industries is related to very special circumstances which are usually advanced as the reasons for State intervention. The competition for unskilled labour apparently represents no problem in most of the Latin American countries, because a high level of under-employment exists in primary activities. This is not so, however, for skilled workers and technicians. The solutions (immigration of qualified personnel, encouragement of technical education, etc.) which have been adopted in areas where competition has become acute, constitute an additional effort of great importance for future development of the region's economies.

As a rule, then, competition by the public sector does not appear to be any great obstacle to private investment. Nevertheless, in some countries and in some very important branches of production, State action is predominant. Undoubtedly, government investment in these specific activities has, sometimes deliberately, discouraged private investment. In the particular case of sectors where foreign capital is concerned, the effect of government intervention may be more important still, because of a broader interpretation of the position of the State in relation to private capital or foreign investment. The reasons for the maintenance of such a policy by some Governments lie outside the strictly economic sphere, and thus any attempt to appraise them would have to take into account, not only the economic aspects, but also political considerations which are beyond the scope of this study.

Chapter II

FISCAL INCOME

I. THE TAX STRUCTURE OF LATIN AMERICA

1. The over-all tax burden

The proportion of tax revenues to gross national inme is appreciably smaller in Latin America than in e United States and in the more highly-developed counies of Europe, covering the same general range as in e less developed countries of Europe and Asia. (See ble 15.) In Latin America, central government receipts present from 6 to 15 per cent of the national gross oduct, except in Venezuela, where they amount to 18 r cent, although, if the taxes paid by the petroleum mpanies are excluded, the proportion drops to 7 per nt. In the United States public revenue has accounted r approximately 15 to 20 per cent of the gross naonal product in recent years, while in the more highly-veloped countries of Europe for about 15 to 30 per nt. On the other hand, in Burma, Ceylon, India, Spain d Turkey its share varies from 7 to 17 per cent.

The ratio of total public sector tax receipts to gross ational product is somewhat similar. In Latin America, is ratio fluctuates from 10 to 22 per cent; in the nited States, it ranges from 20 to 26 per cent, and in e highly-developed countries of Europe from about 5 to 45 per cent.

The differences in the over-all tax burden from one untry to another are attributable to a variety of causes, ich as the level of military and defence expenditure, conomic and social programmes financed with governent funds, and government social policy. But the main eason for the discrepancy between the incidence of xation in Latin America, on the one hand, and in the nited States and most of the countries of Western urope, on the other, lies in the relative degree of ecoomic development. An inferior level of development nplies a lower tax base. Although the regressive nature f the tax system affects the under-privileged sectors, the scal product is much smaller than in more highly-eveloped countries. Moreover, in many Latin American ountries it is practically impossible to tax a substantial ortion of the population who are to a large extent outide the money economy. Income taxes, which in the ndustrialized countries yield high or substantial perentages of total revenue, are much harder to apply. The roportion of potential income-taxpayers is much smaller nd the costs of administration relatively greater; in ddition, the problem of avoiding interference with timuli to the investment required for development is in very way more complicated and serious. Systematic ccounting is less widely practised and, mainly because f the lower over-all level of economic development, the dministration of the tax laws leaves much to be desired.

This situation should not be interpreted to mean that ossibilities for increasing tax receipts are exhausted in Latin America. This is far from being the case, despite the limitations and difficulties imposed by the level of economic development. In the course of this study, some of the ways in which the tax structure can be improved and revenues increased without prejudicing economic growth will become apparent.

Although tax burdens in Latin America as a whole are lighter than in the more highly-developed countries of the world, this should not obscure the fact that there are very significant differences among the Latin American countries themselves. The available data are not sufficiently complete to warrant categorical generalizations. They do, however, seem to justify the tentative conclusion that in general the larger, more developed and more diversified countries of Latin America bear significantly greater tax burdens than the others. This holds true for Argentina, Brazil and—even excluding receipts from copper—Chile. On the other hand, the incidence of taxation in the comparatively small and less diversified economies of Central America and Ecuador is distinctly lower. Mexico is a notable exception to this rule; considering its size and economic structure, the tax burden is relatively light. In Venezuela, the ratio of over-all tax receipts to the gross national product is relatively high, but this is due to the substantial receipts from the large petroleum companies; when such revenue is excluded, Venezuela falls into the group of Latin American countries with relatively modest tax burdens.

Among the general economic factors which have a major effect upon the tax revenue and structure of Latin America, and, consequently, on tax burdens, the chronic inflation to which a number of countries have been subject for many years is worth specific mention. Inflation tends to reduce both incidence and revenues in real terms in the case of certain types of taxes, not only absolutely but also in relation to other taxes. It is apt to create a lag in income taxes which reduces their real burden and yield; tax obligations arising in one year are paid in the next in a depreciated currency. Similarly, inflation greatly alters, as a rule, the incidence of the various taxes. Many indirect taxes, which are comparatively easy to collect and to adjust to inflation, tend to gain in importance. Income tax exemption levels are often forced downward in real terms; the impact of the tax rate undergoes considerable modification; many groups in intermediate-income brackets are forced into the upper categories with their higher rates; and those in the maximum bracket, where the rate ceases to augment, often pay lower real taxes because of currency depreciation. Numerous differential taxes, designed, for example, to encourage industry or discourage the ownership of unused land, lose some of their efficacy. Inflation frequently exalts the problem of taxation of capital gains, particularly from investments which are not especially desirable from the social angle, into one of prime importance; these gains are often so great and so constant,

Table 15. Tax revenue in relation to gross national product

(Percentages)

	Central government					*Local and central government*				
	1950	*1951*	*1952*	*1953*	*1954*	*1950*	*1951*	*1952*	*1953*	*1954*
Latin America										
Argentina	14	15	16	15	...	17	...	...	18	...
Brazil	8	10	10	10	9	16	18	18	22	18
Colombia	8	10	10	10	11	16	17	18	17	...
Chile										
(*a*) Total	13	15	15	14	12	20	21	21	19	...
(*b*) Excl. large foreign companies	12	13	12	11	11	18	18	18	17	...
Ecuador	8	8	8	9	11	10	11	11	12	15
Peru	14	14	14	14	...	14	13	14	14	...
Venezuela										
(*a*) Total	20	20	18	18	...	...	...	22	23	...
(*b*) Excl. large foreign companies	8	8	7	7	...	...	...	11[a]	11[b]	...
El Salvador	10	10	10	10	...	...	...	...	...	...
Guatemala	8	9	9	10	...	...	...	...	...	...
Honduras										
(*a*) Total	7	8	8	...	...	...	...	...	...	...
(*b*) Excl. large foreign companies	6	6	7	...	...	...	...	...	...	...
Mexico	7	10	10	8	8	...	...	...	...	...
North America										
United States	14	16	20	20	20	20	22	26	26	26

	Average 1943-50	
	Central government	*Local and central government*
Europe		
Austria	25	...
Belgium	25	34
Denmark	...	26[d]
France[c]	21	32
Italy[e]	15	36[g]
Netherlands[d]	26	33
Norway	28	41
Spain	15	...
Sweden[f]	23	33
Turkey	14	...
United Kingdom	35	42
Western Germany	29[c]	...

	Central government	
	1950	*1953*
Asia		
Burma	8	7
Ceylon	13	17
India	5	5

Sources and notes: Official statistics for the Latin American countries were regrouped by ECLA in the interests of uniformity. In the case of Venezuela and Honduras data for fiscal years were averaged to obtain calendar year figures. Data for European countries were obtained from the *Economic Survey of Europe for 1949*, prepared by the United Nations Economic Commission for Europe. Coefficients for these countries were calculated on national income at factor cost. United States; *Economic Report of the President, January 1956.* The figures for some Asian countries were obtained from The United Nations *Statistical Yearbook 1954*, for central government income, and from *Statistics of National Income and Expenditure*, United Nations publication, series H. No. 8 for the gross national product.

[a] Fiscal year 1952/53. [b] Fiscal year 1953/54. [c] Annual average 1948-49.

[d] Fiscal years 1948/49 and 1949/50. [e] 1948. [f] Fiscal years 1947/48, 1948/49 and 1949/50. [g] Fiscal year 1948/49.

as well as being mainly dependent upon inflation, that they lose their character of fortuitous earnings and become in effect a form of unearned income. Finally, inflation creates a lag of receipts behind expenditure which is liable to reinforce the initial inflationary process and to cause far-reaching effects on the economy as a whole.

2. Importance of tax revenues from the external sector

One of the main characteristics of taxation systems in the Latin American countries is the high proportion of tax revenue obtained from activities directly connected with foreign trade. Table 16 shows the respective percentages contributed by import and export duties, royalties and other taxes on production for export to the total revenue levied by the central government in each of the countries under consideration.[1]

In seven of the thirteen countries covered in the table—Venezuela, the five countries of Central America and Chile—the proportion of aggregate revenue accounted for by the external sector was more than 45 per cent, rising to its highest in Venezuela, where it was 75 per cent. In three countries—Ecuador, Mexico and Colombia—the corresponding figure was between 25 and 40 per cent. Only in two countries—Argentina and Brazil—was the external sector of less importance in

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[1] For Brazil, Chile and Colombia, the statistics in table 16 represent the total for the public sector.

le 16. Latin America: Public revenue obtained from the external sector in selected countries and relationship to ordinary income, 1953 or 1953/54

(Million units of national currency)

ry	Total ordinary revenue	Total taxes levied on the external sector and royalties	Percentage	Import duties	Percentage	Export duties	Percentage	Taxes and royalties	Percentage
ntina	15,717	977	6	299	2	—	—	—	—
il[a]	74,184	7,858	11	7,366	10	492	1	—	—
e	58,223	25,989	45	7,382	13	7,898	14	10,709	19
mbia[a]	1,511	374	25	250	16	79	5	57	3
a Rica	194	129	66	102	52	12	6	15	8
ador	810	309	38	293	36	15	2	—	—
Salvador	130	84	65	49	38	35	27	—	—
temala	61	35	57	23	38	12	19	—	—
duras	43	23	53	21	50	1	3	—	—
ico	4,357	1,225	28	631	14	595	14	—	—
ragua	161	107	67	99	61	8	5	—	—
	3,089	902	29	607	20	291	9	—	—
ezuela	2,658	2,006	75	384	14	137	5	1,485	56

rce: Official statistics.
otal public sector.

tion to total revenue, with coefficients of 6 and 11 cent respectively.[2]

he specific sources of the external sector revenues y considerably among the different countries. Income s, royalties, payments for exploitation rights, ex- nge profits, etc., derived from large foreign companies aged in the production and exportation of a single ic commodity provide a very large proportion of total enue in two countries, and significant percentages in eral others. Of Venezuela's total current revenue, ut 60 per cent was derived from the petroleum in- try; of Chile's, over 32 per cent came from copper ing and, to a small extent, from the nitrate industry.[3] Costa Rica and Honduras, a considerable share of l current revenue was derived from "tributaciones egalías" paid by the large foreign companies engaged he production and export of bananas, and in Colombia n "tributaciones y regalías" paid by the petroleum npanies.

xport duties, paid mainly by local producers and ex- ters, accounted for substantial proportions of total enue in two countries and for somewhat lower per- tages in several others. In El Salvador and Guatemala, ies of this nature, chiefly affecting coffee, provided m about 35 to 12 per cent, respectively, of total rent revenue. Since the price of coffee is fixed in a ld market on which the two countries in question rt only a relatively small influence, these duties con- ute in effect a direct, though unprogressive tax on ducers and exporters. The shares of total current enue corresponding to export taxes amounted to 9 l 14 per cent respectively in Peru and Mexico, where h duties are imposed on a variety of products and are ncipally paid by local producers and exporters; about 4 to 5 per cent in Nicaragua and Colombia, where again they fall for the most part on local enterprise; and only negligible percentages in Brazil and Ecuador.

Import taxes are a significant source of revenue throughout Latin America, except in Argentina, where in the year under review they provided less than 2 per cent of total current revenue. They are especially important in the Central American Republics and Ecuador, where they alone contributed from about 35 to 60 per cent of current fiscal income, their share greatly exceeding that of export taxes in all these countries. In the remaining countries, the proportion of total current receipts derived from this source varied from about 10 to 20 per cent.

This heavy dependence upon the external sector for revenues has a variety of important effects on taxation systems and economic activities. Firstly, in many countries, tax revenues are subject to sharp fluctuations caused by changes in the world market for one product or for a few commodities. Budgetary instability is thus created which has repercussions on the over-all economy, increasing its vulnerability to external factors. Secondly, these fluctuations influence public investment plans and introduce a strong element of uncertainty into medium- and long-term economic development programmes. Thirdly, the ease or difficulty of obtaining revenue from the external sector indirectly affects tax policy for the internal sector, and thus helps to determine the tax burden, the utilization of potential sources of revenue and the relative importance of direct and indirect taxation in the fiscal system.

Chile and Venezuela, which present extreme cases of dependence on revenue derived from the export of a single key commodity, may be used for illustrative purposes. A break-down of total government receipts from taxation in Chile shows that during the period 1945-55 the external sector contributed approximately 50 to 60 per cent; receipts from copper and, to a much smaller degree, from nitrates, alone accounted for about 30 to 40 per cent. (See table 17.)

In the case of Colombia and Brazil, the table tends to under- e the comparative fiscal importance of the external sector be- se total revenues given comprise non-central-government rev- es, which in Colombia include none and in Brazil only a rela- ly minor portion of those derived from the external sector.

"Tributaciones y regalías" and "derechos de exportación" con- solely of receipts from petroleum in Venezuela and proceeds n copper and nitrates in Chile.

Table 17. Chile: Central government taxation revenue

Year	Total revenue from taxation	External taxation			Internal taxation total
		Total	Import duties	Taxes levied on large mining companies	
	(Billions of pesos at 1950 prices)				
1945......	18.6	9.3	3.0	6.3	9.3
1946......	18.5	9.3	3.3	6.1	9.2
1947......	22.1	12.7	3.4	9.3	9.4
1948......	24.5	13.3	3.9	9.4	11.2
1949......	24.0	11.9	4.1	7.7	12.1
1950......	23.4	11.7	3.5	8.2	11.6
1951......	25.7	13.2	4.5	8.7	12.5
1952......	31.6	19.1	4.7	14.4	12.5
1953......	28.3	13.7	3.9	9.8	14.6
	(Percentages)				
1945......	100	50	16	34	50
1946......	100	50	18	32	50
1947......	100	57	15	42	42
1948......	100	54	15	38	46
1949......	100	49	17	32	51
1950......	100	50	15	35	50
1951......	100	51	17	34	49
1952......	100	60	16	46	40
1953......	100	48	14	35	51

Source: Official statistics.

Chile's fiscal receipts from copper are obtained from income tax paid by the copper companies; from profits on the purchase and sale of foreign exchange accruing from copper shipments; and, in a minor degree, from duties on copper company imports. During the years 1952-54, there was also a tax of 100 per cent on the surcharge, that is, the amount by which the sale price of copper exceeded 24.5 dollar cents per pound; this tax was abolished in 1954 and was more or less replaced by income tax adjustments.[4]

The great extent to which government receipts from copper are vulnerable to sharp fluctuations in the price and demand for this commodity is clearly evident. Such resources declined from 6.3 billion pesos (at constant 1950 prices) in 1945 to 6.0 billion in 1946; they then rose to 9.4 billion in 1948 and fell to 7.7 billion in 1949, after which they increased to 14.7 billion by 1952, but dropped sharply to 9.8 billion in 1953. Since copper has been representing 40 per cent or more, often much more, of Chile's visible exports, receipts from import taxes are indirectly affected by the foreign exchange earned by this metal; these receipts also fluctuate, though over a narrower range than the direct proceeds from copper, and with a somewhat different timing.

The fluctuations in receipts from the external sector are so sharp that they impart a serious instability to total revenue, despite the fact that about 40 to 50 per cent of total current tax receipts are derived from internal taxation which is relatively stable. Aggregate tax revenue has followed a trend roughly parallel to that of receipts from copper, showing one mild, and then two acute declines in the period 1945-53. It fell from 18.6 billion pesos (at 1950 prices) in 1945 to 18.49 billion in 1946; from 24.5 billion in 1948 to 23.4 billion in 1950; and from 31.6 billion in 1952 to 28.3 billion in 1953. These fluctuations have tended to cause or aggravate budget deficits, and have been a key factor in accelerating the marked inflation to which Chile has been subject.

The relation between receipts from petroleum and other current central government receipts in Venezuela, indicates the substantial and ever-growing extent to which revenue is derived from the former source. (See table 18.) The proportion of total current receipts for which petroleum accounted was about 50 per cent in the fiscal year 1944/45, decreased to 45 per cent in 1945/46, and then rose fairly steadily to 61 per cent in 1953/54.

Venezuela derives revenues from petroleum in several ways. There are royalties of 16.66 per cent of the gross value of petroleum produced, plus receipts from the granting of exploration, zonal and other rights; these receipts, which constitute the category "hydro-carbons" in the relevant table, are not strictly speaking tax revenue, but rather returns from government property, since in Venezuela, as in most Latin American countries, the sub-soil, according to the old Spanish law, is public property. Furthermore, there is the income tax paid by the petroleum companies. Finally, there are exchange profits accruing from currency transactions with these companies, which have been grouped in the category "export duties".

The fiscal importance of Venezuela's petroleum industry is still greater than is apparent from the statistics In the first place, receipts from import duties which after receipts from petroleum, form the next larges single category, depend to an overwhelming extent on foreign exchange earnings from petroleum exports. Secondly, the level of internal taxation is considerably affected by the influence of petroleum on the creation of income and on the purchasing power of the economy as a whole. Import duties have been accounting for about 15 to 20 per cent of total current receipts, but this proportion has shown a tendency to decline.

Because of the upward trend in the world demand for petroleum, and because this commodity is not subjec to fluctuations as sharp as those affecting internationa trade in most primary goods, Venezuela's revenue from this source seems, for the time being at least, to rest on a reasonably firm basis. It should nevertheless be noted that in the fiscal year 1949/50, when there was a mild recession in the United States and a foreign exchange crisis leading to a general currency devaluation in Western Europe, government receipts from oil in Venezuela were almost 8 per cent less than in the preceding year Consequently, revenue from import duties also declined Moreover, potential competition from other petroleum producing areas should not be overlooked, as well as the possibility that the United States may raise the customs tariff on imports of petroleum, a measure which has from time to time been strongly advocated by the coal industry and other interests. It would not be safe therefore, to assume that further and perhaps even greater reductions will not take place. The large and growing receipts from petroleum have permitted Venezuela to impose light internal taxation. Despite the fact that *per capita* income in Venezuela is among the highest in Latin America, the ratio of taxes to gross product is one of the lowest. Specifically the levels of exemption

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[4] See also chapter IV, part II, pp. 154 *et seq.*

Table 18. Venezuela: Central government revenue

l years	Total ordinary revenue	External sector	Revenue derived from petroleum				Import duties	Internal sector		
			Total	Export duties[a]	Income tax	Hydro-carbons		Total	Indirect taxes	Direct taxes
(Millions of bolivares at current prices)										
4-45.....	614	413	308	4	27	277	104	141	113	28
5-46.....	707	456	316	11	61	244	141	156	119	31
6-47.....	1,096	777	585	44	178	363	193	195	136	59
7-48.....	1,560	1,171	904	76	266	562	267	241	160	80
8-49.....	1,963	1,499	1,155	62	392	702	345	283	190	93
9-50.....	1,896	1,405	1,067	103	363	601	338	307	198	109
0-51.....	2,126	1,605	1,240	111	345	784	365	332	217	115
1-52.....	2,297	1,752	1,390	114	465	811	362	358	238	120
2-53.....	2,371	1,803	1,428	126	539	763	375	377	251	126
3-54.....	2,658	2,006	1,622	137	584	900	384	442	268	175
(Percentages)										
4-45.....	100	67	50	1	4	45	17	23	18	5
5-46.....	100	64	45	1	9	34	20	22	17	5
6-47.....	100	70	53	4	16	33	17	18	12	5
7-48.....	100	75	58	5	17	36	17	15	10	5
8-49.....	100	76	59	3	20	36	17	14	10	5
9-50.....	100	74	56	5	19	32	18	16	10	6
0-51.....	100	75	58	5	16	37	17	16	10	5
1-52.....	100	76	60	5	20	35	16	16	10	5
2-53.....	100	76	60	5	23	32	16	16	11	5
3-54.....	100	75	61	5	22	34	14	17	10	7

ource: Official statistics.
Exchange differential.

m income tax are among the highest in Latin America, d the effective rates among the lowest.

The other cases in which fiscal income substantially pends on single export activities are less extreme than se of Chile and Venezuela. In El Salvador, and Guaala, for example, though export taxes, falling mainly coffee, represent a large and expanding source of enue, they do not dominate and pervade all fiscal eipts as occurs in Venezuela and Chile. (See tables and 20.) Receipts from export taxes in the two Central nerican countries account for a far smaller proportion total revenue than is provided by those from petrom in Venezuela. These taxes have not hitherto imrted any general instability to the whole of the fiscal stem, such as results from fluctuations in copper reipts in Chile; in fact, during the period covered there s no decrease in receipts from this source in Guatemala, d only a mild decline in El Salvador during 1952. tentially, however, these taxes, particularly if revenue om them increases in relative importance, are capable introducing considerable direct vulnerability to exrnal factors into the fiscal systems of both countries.

When a large share of revenue is derived from the ternal sector through import duties rather than export tivities, dependence on the external sector is mitigated, t not entirely eliminated. Fiscal receipts from import xes are mainly and ultimately, though indirectly, dendent on the foreign exchange earnings from exports; ey are therefore vulnerable to fluctuations in exports. here such receipts account for large proportions of tal revenue, as in Central America and Ecuador, this lnerability is of great potential significance.

The vital importance of the economic structure in termining the degree and nature of fiscal dependence on the external sector can be seen from a few specific considerations relating to concrete cases. The very heavy fiscal dependence on petroleum in Venezuela is clearly related to the fact that it constitutes a distinct economic sector whose earnings and productivity are outstandingly higher than those of the rest of the economy, the whole of which is subject to its influence. The situation is similar in relation to copper in Chile, although, because the Chilean economy is more diversified, fiscal dependence on copper is less extreme in percentage terms. Employing less than one per cent of the active population, the copper industry has been contributing approximately 7.5 per cent of Chile's gross product. Productivity, in terms of the number of workers employed, is over ten times greater than in the economy as a whole.[5]

The banana industry in Costa Rica and other Central American countries, though it also diverges from the pattern followed by the remaining sectors in the economies concerned, does so less sharply and, probably for this reason, is relatively less rich as a potential source of revenue. In terms of technique, the use of capital equipment, productivity, etc., the banana industry does not constitute so distinct and separate an entity as do petroleum in Venezuela and copper in Chile. The difference between the ways in which the banana and coffee industries are taxed in Central America and the systems elsewhere is related to the disparity in the organization of these industries. Whereas bananas are generally exploited by a few large foreign companies, coffee is produced by many domestic entrepreneurs. Administratively, it is much easier to apply general income taxes to the large banana companies. But, while it is probably by no means impossible, and might, all things considered,

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[5] Copper accounts for about 40 to 60 per cent of Chile's visible exports.

Table 19. El Salvador: Central government revenue

Year	Total ordinary revenue	External taxation			Internal taxation		
		Total	Import duties	Export duties	Total	Direct taxes	Indirec taxes[a]
		(Millions of colones at current prices)					
1946.......	36.7	19.5	15.0	4.5	17.2	4.9	12.3
1947.......	50.4	31.7	24.5	7.2	18.7	4.7	14.0
1948.......	54.4	34.4	25.0	9.4	20.0	5.4	14.6
1949.......	64.0	39.8	28.0	11.8	24.2	7.4	16.8
1950.......	82.1	52.6	36.5	16.1	29.5	9.8	19.7
1951.......	109.7	77.1	42.8	34.3	32.6	9.5	23.1
1952.......	116.1	77.6	45.1	32.5	38.5	13.1	25.4
1953.......	129.3	84.5	49.5	35.0	44.8	16.7	28.1
1954.......	156.9	99.7	53.5	46.2	57.2	23.7	33.5
		(Percentages)					
1946.......	100	53	41	12	47	13	33
1947.......	100	63	49	14	37	9	28
1948.......	100	63	46	17	37	10	27
1949.......	100	62	44	18	38	12	26
1950.......	100	64	44	20	36	12	24
1951.......	100	70	39	31	30	9	21
1952.......	100	67	39	28	33	11	22
1953.......	100	65	38	27	35	13	22
1954.......	100	63	34	29	36	15	21

Source: Official statistics.

[a] Includes revenue from sources other than taxation, which could not be broken down because the necessary data was lacking.

Table 20. Guatemala: Central government revenue

Year	Total ordinary revenue	External taxation			Internal taxation		
		Total	Import duties	Export duties	Total	Direct taxes	Indirect taxes[a]
		(Millions of quetzales at current prices)					
1946-47....	28.3	13.0	10.4	2.6	15.3	3.7	11.6
1947-48....	31.4	15.4	13.0	2.4	16.0	3.8	12.2
1948-49....	34.1	16.7	14.4	2.3	17.4	4.3	13.1
1949-50....	35.6	17.7	15.7	2.0	17.9	4.7	13.2
1950-51....	41.8	23.2	17.5	5.7	18.6	4.4	14.2
1951-52....	50.3	29.1	19.4	9.7	21.2	4.7	16.5
1952-53....	55.6	31.8	20.7	11.1	23.8	5.3	18.5
1953-54....	61.1	34.8	23.2	11.6	26.3	4.9	21.4
		(Percentages)					
1946-47....	100	46	37	9	54	13	41
1947-48....	100	49	41	8	51	12	39
1948-49....	100	49	42	7	58	13	45
1949-50....	100	50	44	6	56	13	43
1950-51....	100	55	42	14	58	10	48
1951-52....	100	58	39	19	42	9	33
1952-53....	100	57	37	20	43	9	33
1953-54....	100	57	38	19	43	8	35

Source: Official statistics.

[a] Includes revenue from sources other than taxation.

be appropriate to apply them to the coffee producers, the prevailing export duties do offer advantages from the standpoints of simplicity, ease of collection, prevention of evasion, etc.

While the extensive use of import taxes is traditional in most of Latin America, the fact that these duties are much more important in Central America and Ecuador than in the other Latin American countries is also related to the economic structure of the former. The countries in question differ from one another in many significant ways; but, taken as a whole, and in comparison with most of the rest of Latin America, they are economically undiversified and have a lower *per capita* income. As a result, the tax base is relatively low and this situation places a premium on obtaining revenue from comparatively simple and reliable sources, such as import duties.

Finally, the lesser degree of direct fiscal dependence on the external sector, which is evident in such countries as Argentina and Brazil, is also related to the economic structure. Argentina may be used as an illustraon. The economy there is considerably more diversified d has a greater ability to meet direct internal requirements than that of most other Latin American countries; griculture is not confined to one or two staple crops d, on the whole, despite the recent decline, it has attained a higher level than in the rest of Latin America; e country thus produces most of its basic foodstuffs, hile, in addition, although it lacks coal and is short petroleum, Argentina possesses a number of industial raw materials and industry has reached a fairly dvanced stage. The monetary sector of the internal onomy is well developed and there is not, as in a numer of other Latin American countries, a large sector f the population living to a substantial extent outside . Nor is there a sharp disparity in productivity and rnings between the export sector and the rest of the onomy; the former is not dominated by a few large oreign-controlled enterprises but is integrated with the st of the economy. Although Argentina's exports are ot as diversified as those of the United States or the ountries of Western Europe, they are somewhat more eterogeneous than those of most of the Latin American ountries. For these various reasons, the internal sector f Argentina's economy constitutes a relatively large ctual and potential source of government revenue, while, n the other hand, the contribution of the external sector s not particularly distinct or easy of access.

If import duties provide only a very small share of ggregate revenue, this is probably due to the factors oted above in addition to the basic orientation of rgentina's foreign trade and payments. Because other ources of revenue are available, there is little need to ely on import duties for this purpose. Argentina's trade s mainly channelled towards Western Europe, whose rade is generally carried on through systems of exchange ontrols, bilateral trade treaties and payments agreements; consequently, Argentina's trade policy and payments methods are geared to this type of system. Control f the volume and composition of imports is mainly xercised through the exchange system, which is also sed to a considerable extent for protection purposes.

The emphasis given above to the role of economic tructure in shaping the tax system is not intended to mply that this is its only, or even, in all cases, its most mportant determinant. Economic structure is one of he key factors responsible for the general pattern of the ax structures in Latin America. But clearly many other elements—historical, institutional, and political—are also very significant.

Nor is it suggested that the existing tax structures are too much the offspring of circumstance for change and improvement to be possible. The heavy fiscal dependence on the external sector which is characteristic of most Latin American countries is in many respects a serious weakness and tends to make fiscal systems very vulnerable to the vagaries of international trade. Heavy import duties, used to a large extent for revenue purposes, constitute, in the main, a strongly regressive element in the tax system. There is considerable evidence that while a fairly substantial degree of dependence on the external sector is probably inevitable until greater progress is achieved in economic development and diversification, large potential internal sources of revenue generally exist, which, if adequately tapped, could do much to make the Latin American tax systems more balanced, more stable and more equitable.

3. Relative importance of direct and indirect taxes

An analysis of tax systems with a view to determining the importance of direct and indirect taxation gives some preliminary idea of tax incidence. The study of this incidence and of its economic effects is undoubtedly a much more complicated task, calling for much data which is at present unavailable in most Latin American countries. In the course of future studies such data must be obtained in order to assess this question in greater detail, which is of particular importance for economic policy. In the meanwhile only a very general break-down of the tax structure can be made, on the basis of a differentiation between taxes on capital and income—supposedly paid at the source and practically non-transferable—and others which become incorporated in the cost of the goods and services affected.

In the Latin American countries indirect taxation is of greater importance than direct contributions. (See table 21.) In Brazil, Peru, Ecuador and the countries of Central America (with the exception of El Salvador), the share of indirect taxation in revenue was from 567 to 159 per cent larger than that of direct taxes. In Chile and Venezuela, receipts from direct taxes exceeded those from indirect taxes, but this was due to the contributions of petroleum in the latter and copper in the former case; if these are excluded from the calculation, receipts from indirect taxes prove to have been 273 and 99 per cent greater than those from direct taxes in Venezuela and Chile respectively. In the remaining countries, too, indirect taxes yielded a higher proportion of fiscal income than direct taxes, but the difference was more moderate. In El Salvador, receipts from indirect taxes were 58 per cent higher than those from direct taxes, and in Colombia (without the contribution of petroleum), 32 per cent. In Mexico the difference amounted to 13 per cent and in Argentina to 9 per cent.

The relative importance of the specific indirect taxes varies somewhat among the different countries. As has already been pointed out, import duties form the largest single source of revenue in Central America and Ecuador, and are of considerable significance in the other countries, with the exception of Argentina. Taxes on consumption make a substantial contribution to fiscal income throughout Latin America, and in Brazil they alone provide 40 per cent of the total. Other indirect taxes, including sales, production, and turnover taxes, are of rather less widespread importance than import duties or taxes on consumption. But they account for about 25 per cent of total receipts in Argentina, and for a sizeable proportion in Brazil, Chile and Honduras.

Outstanding among the direct taxes are those on income and exports. Argentina, Brazil and Colombia are noteworthy because around 30 per cent of their current revenue is provided by income tax. The percentage is smaller in other countries and in several cases income tax is of relatively minor importance.[6]

Taxes on inheritance and donations and "other indirect taxes", including taxes on property and capital,

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[6] For a discussion of income tax in several Latin American countries, see section II of the present chapter.

Table 21. Latin America: Relative importance of direct and indirect taxes in selected countries, 1953

(Millions of units of each national currency)

Country	Total currency income	Direct taxes					Indirect taxes				Royalties	Indirect taxes as a percent. of direct taxes
		Total	On income and profits	On exports	On inheritance and donations	Other direct taxes	Total	On Imports	On consumption	Others		
Argentina	15,717	5,687	4,754	10	456	474	6,180	290	2,550	4,007	—	—
Brazil	74,184	16,389	13,251	492	509	2,137	48,555	7,366	29,054	12,135	—	—
Chile	58,223[d]	30,308[a]	18,977	7,898	245	3,188	23,265	7,382	6,817	9,066	—	—
Chile		11,701[b]	8,268	—	245	3,188	23,265	7,382[c]	6,817	9,066	—	—
Colombia	1,382	476[a]	326	79	15	56	568	250	262	56	12	—
Colombia		431[b]	281	79	15	56	568	250[d]	262	56	—	—
Costa Rica	194	54	30	12	—	11	140	102	32	6	—	—
Ecuador	810	113	83	15	430	—	430	294	84	53	—	—
El Salvador	129	50	10	35	4	1	79	50	21	8	—	—
Guatemala[e]	61	17	4	12	—	1	45	23	15	7	—	—
Honduras[e]	43	10	9	1	—	—	32	22	4	6	—	—
Mexico	4,359	1,695	1,101	—	1,913	—	1,913	631	1,095	186	—	—
Nicaragua[e]	161	21	8	8	1	4	140	102	32	6	—	—
Peru	3,091	868	555	22	1,696	—	1,696	609	1,000	88	—	—
Venezuela[e]	2,658	896[a]	754	137	5	—	652	384	191	77	900	—
Venezuela		175[b]	170	—	5	—	652	384[c]	191	77	—	—
					(Percentages)							
Argentina	100	36	30	—	3	3	44	2	16	26	—	109
Brazil	100	22	18	1	1	3	65	10	39	16	—	296
Chile	100	52	32	13	—	6	40	13	12	16	—	77
Chile	—	20	14	13	—	6	40	13	12	16	—	199
Colombia	100	34	24	6	1	4	41	18	19	4	1	119
Colombia	—	31	20	6	1	4	41	18	19	4	—	132
Costa Rica	100	28	15	6	—	6	72	52	17	3	—	259
Ecuador	100	14	10	2	2	—	53	36	10	6	—	380
El Salvador	100	39	8	27	3	1	61	38	16	6	—	158
Guatemala[e]	100	27	6	19	—	1	73	38	24	11	—	265
Honduras[e]	100	23	20	3	—	1	74	51	10	16	—	320
Mexico	100	39	25	14	—	—	44	14	25	4	—	113
Nicaragua[e]	100	13	5	5	1	2	87	61	21	5	—	667
Peru	100	28	18	9	1	—	55	20	32	3	—	195
Venezuela[e]	100	34[a]	28	5	—	—	24	14	7	3	34	73
Venezuela	—	7[b]	6	5	—	—	24	14	7	3	—	373

Source: Official data. [a] Includes unrecorded exchange profits which were not received. [b] Includes revenue from foreign companies. [c] Excludes revenue from foreign companies. [d] No break-down could be made. [e] Fiscal year 1953/54.

ld quite large proportions of total revenue in Chile, sta Rica, Colombia, Argentina and Brazil. In the other ntries, their share is of only minor significance.

The predominance of indirect taxation in the Latin nerican fiscal systems indicates a high degree of re- ssiveness. Indirect taxes are of course not always gressive; their incidence depends on the articles taxed, e relative rates, etc. In Great Britain, for example, rchase taxes are methodically and progressively geared taxation of luxuries, and taxation of articles of mass nsumption is avoided. But the fiscal, i.e., revenue- oducing aspect of the British purchase taxes is far s important than their use as instruments for the ntrol of the balance of payments and the general chan- lling of social expenditure. Moreover, even the most ogressive of indirect taxes cannot be as systematically adjusted to the taxpayer's resources as, for example, direct income taxes. There is a widespread and legitimate tendency to assume that indirect taxes, in particular where their main purpose is fiscal and they account for a substantial portion of total revenue, are, taken as a whole, regressive.

In Latin America, the main purpose of many indirect taxes is, and has traditionally been, fiscal; they have been imposed on articles in common use because these afford an easy source of revenue. Although there are numerous specific indirect taxes which are progressive, or at least partially so, the bulk of the fiscal income is derived from heavily regressive taxes.

Table 22, which presents a break-down of receipts from consumption taxes by articles taxed, for Argentina, Brazil, Chile, Colombia, and Venezuela, indicates that lthough there are differences in tax classification and in he types of article taxed, there are also certain basic imilarities. Consumption taxes in Latin America fall ery heavily on cigarettes and alcoholic beverages. There re also taxes on such commodities as matches, toilet nd pharmaceutical articles, electric light bulbs, sugar, tc. Finally, there are taxes on petrol, cinema and other hows, luxury articles, etc., but the proportion of consumption tax revenues derived from these is very small ompared to that accruing from tobacco and liquors.

Table 22. Latin America: Consumption taxes in selected countries, 1953 or 1954

(Percentage of total revenues, by articles taxed)

	Argentina	*Brazil*	*Chile*	*Colombia*	*Venezuela*
Tobacco and cigarettes...	52	33	25	27	42
Alcoholic beverages	25	13	5	14	48
Matches	3	2	—	1	1
Toilet articles and perfume	2	3	—	—	—
Petroleum derivatives	—	—	13	6	9
Luxury articles	4	1	—	—	—
Other commodities	13	48	56	51[a]	—
TOTAL	100	100	100	100	100

Source: Official statistics.

[a] Includes 29 per cent of those consolidated taxes on consumption which are levied by municipalities, and on which separate data are not available.

Thus in Argentina, from 40 to 50 per cent of total revenues from consumption taxes has been contributed by the tax on tobacco. A further substantial share (in recent years about 25 to 30 per cent) has corresponded o alcohol and alcoholic beverages, including wine and cider, beer, etc. The tax on matches alone has recently been providing a much higher percentage of fiscal income han the tax on luxury articles. There is also a tax on sugar. In Brazil, where consumption taxes have been representing approximately 35 to 40 per cent of consolidated total revenue, over 45 per cent of such taxes was made up in 1953 of those imposed on tobacco, lcoholic beverages and matches.[7] There are also taxes on certain processed foodstuffs and on numerous articles n common use. In Venezuela, over 90 per cent of the revenue from consumption taxes in the fiscal year 1953/54 was obtained from taxes on liquors, cigarettes and natches, and the remainder from those affecting petroleum derivatives. In Colombia, where a break-down of municipal consumption taxes is not available, national and departmental consumption taxes on tobacco, beer and matches accounted for over 40 per cent of total consolidated receipts from this form of taxation. In Chile, about 30 per cent of receipts from consumption taxes accrued from taxes on tobacco and alcohols.

The great extent to which taxes on consumption are regressive is clear from these examples. This is especially true of the cigarette and liquor taxes, although the latter, because of the graduated rates for luxury beverages, have a progressive aspect as well. The taxes on such items as matches and soap are not only regressive, but also yield small revenues which probably are often not worth the cost and trouble involved. While there are also many taxes on luxury articles and activities, the total sums derived from these taxes are relatively small compared to those contributed by the clearly regressive taxes, and do not alter the general picture.

A number of countries in Latin America have taxes on general sales, production or business turnover, etc. Argentina and Chile, for example, impose a heavy tax on all sales at the wholesale level of distribution. The states in Brazil have turnover taxes. These general taxes on all sales, transactions, production, and so forth, are severely regressive, though their regressiveness may sometimes be mitigated by the graduation of rates for certain types of transactions.

It is, of course, a commonplace that import taxes may be levied for a variety of purposes, including, among others, protection of local enterprise, and control of the balance of payments. The lack of systematic and detailed statistical break-downs of receipts from import duties hampers judgment. But it may be stated that in many Latin American countries—for example, in those of Central America—where numerous import duties have traditionally been used to obtain revenues, they constitute in the main a form of tax on consumption, and are regressive. A number of import duties used for protection—in support of a local textile industry, for instance—are also regressive, particularly when account is taken of their effect on local price levels; but of course the need for protection may well be the more important consideration. On the other hand, import duties used to control the balance of payments are often highly progressive, falling most heavily on luxury and semi-luxury imports.

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[7] Tobacco alone accounted for about 33 per cent.

Two specific indirect taxes deserve special mention: those on automobiles and those on petrol. Both these articles may be taxed in a variety of ways, through import duties, sales taxes, those classified as consumption taxes or other forms of indirect taxation. Many Latin American countries tax automobiles, often heavily, and, since their ownership in Latin America is restricted to a relatively small and well-to-do sector of the population, such taxes are progressive.

Numerous Latin American countries also tax petrol and lubricants, though some impose only a low tax, and others none at all. The progressiveness of these taxes is not uniform. They are progressive in so far as they fall on users of private vehicles, and this probably more than counterbalances the fact that they also affect public transport, since they cost the individual owners of private vehicles much more than the users of public transport. The latter, moreover, is sometime subsidized. These taxes, however, often have a heavy incidence on agriculture, trade and other activities, and hence acquire a regressive aspect.

Finally, the weakness in the administration of property assessment, the inadequacy of taxes on property and capital gains, and the frequency of evasion, which occurs mainly in the case of income tax and other direct taxation, adds to the general regressiveness of the existing systems.

In several Latin American countries, there are signs of increasing progressiveness in the tax systems. In Central America, for example, a general income tax was established in Honduras and Nicaragua in 1949 and 1952, respectively, and in other countries reforms of the income tax laws have been introduced since 1949. In several countries these modifications have apparently been bearing fruit. (See again table 21.) In Costa Rica, Honduras and Nicaragua, the proportion of receipts attributable to income tax has been rising; and where, as in Costa Rica, a break-down indicating revenue from the large foreign banana companies and from other sources is available, it shows that the increment is not confined to the receipts from the companies in question. In El Salvador and Guatemala, export taxes are accounting for an increasingly large proportion of total revenue; and while these taxes are not nearly as progressive as income taxes proper, they are more so than the general run of indirect taxes. Mainly because of these higher receipts from income and export taxes, the share of fiscal income contributed by indirect taxes in Centr America has been declining; and, except in Guatemal the reductions have been substantial.

In Chile, on the other hand, the tax system has bee tending to become increasingly regressive. A compariso of receipts from indirect and direct taxes in Chi indicates that whereas total internal direct taxes yielde slightly more revenue than total internal indirect taxe during the period 1945-48, since then the indirect taxe have been making the greater contribution, and there ha been a tendency for the gap to widen. Receipts fro taxes on personal income have grown at a much les rapid rate than any of the individual categories of internal tax receipts. Those accruing from taxes on th income of enterprises and "other direct taxes", whic include taxes on property, capital gains, etc., have increased considerably more slowly than revenue from taxes on consumption and "other indirect taxes". Whereas receipts from income taxes, both on enterprises an on persons, accounted for more than 30 per cent of tota internal taxes in 1945, they represented less than 2 per cent in 1953; and, conversely, whereas "other indirect taxes" amounted to less than 25 per cent of tota indirect taxes in 1945, they signified about 33 per cen in 1953.

The substitution of progressive for regressive tax systems in Latin America will not be an easy process. Progressiveness is an important *desideratum* in levyin taxes, but by no means the only one. Such consideration as the steadiness and volume of revenue and the protection of industry must also carry great weight. Man taxes, even though regressive, may be needed for the revenue they produce, or justified by a legitimate anxiet to protect local economic activities.

Nevertheless, the Latin American countries, as thei economies have become more advanced and diversified have realized the advantage of initiating reforms aime at achieving greater progressiveness in their fiscal systems, both on grounds of tax equity and because more effective instruments are required for the execution o a far-reaching economic policy. Broadly speaking, these efforts have taken the shape of new direct taxes, or increased rates within the progressive taxation systems already in existence. This is the specific reason why income tax has been introduced in almost all countries during the last two or three decades. There is also a growing tendency to impose heavier taxation on such sources of income or goods as capital gains, real estate, luxury articles, automobiles, petrol, etc., so as to impart greater progressiveness to the prevailing régime. It is patent that a wide field for action exists, whose exploration, barely begun as yet, may lead to a substantial improvement in the region's tax systems.

II. INCOME TAX

1. Introduction

Since the 1930's income tax has been established in almost all the Latin American countries.[8] Although in-ne had previously been taxed to some extent in certain es, the systems in force had been of a very rudimentary ure. Changes in the individual internal economies, ich have created economic groups capable of generat- taxable income; the need to increase the efficiency the fiscal systems as instruments for the mobilization resources, as well as to offset wholly or in part the rease in receipts from the external sector; and, finally, influence of modern ideas with respect to taxation, ve all helped to make income tax an important piece Latin America's present tax machinery.

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[8] In Brazil, Chile, Costa Rica, El Salvador, Mexico and Peru, income tax was introduced during the period 1920-30; in Argentina, in 1932; in Colombia, in 1935; in Venezuela, in 1942; in Honduras, in 1949; and in Nicaragua, in 1952.

The stage reached in the evolution of income tax, d the relative size of its contribution to total fiscal come, differ from one country to another on account historical factors, the lack of uniformity in the levels economic and social development attained, and the rying length of time this type of taxation has been force. In Argentine, Brazil and Colombia it accounts r the largest proportion—over 30 per cent—of total government revenues. Its share is smaller in Chile, Mexico and Venezuela, having fluctuated during the last few years around 25 per cent, and still more limited in the Central American Republics (18 per cent in Honduras, 15 per cent in Costa Rica, 8 per cent in El Salvador, 7 per cent in Guatemala and one per cent in Nicaragua). (See table 23.)

Broadly speaking, although in Latin America income tax is following an upward trend, it represents a far less significant proportion of fiscal revenue than in more highly-developed countries. In the United States, for instance, it provides 76 per cent of public income, in Australia 62 per cent, in England 50 per cent, and in Japan 47 per cent, to cite only a few cases.

A methodical examination of income tax will involve the establishment of a distinction between the contributions exacted from individuals and from corporations, with, in each case, a study of the divergent features of the tax system and of its economic effects.

Table 23. Latin America: Direct taxes as a percentage of current income

(Percentages)

untry	*Taxes*	*1945*	*1946*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*
gentina	Direct	27	28	31	31	33	37	34	36	36
	Income	23	24	29	30	27	31	30	32	30
	Property	4	4	2	4	6	6	4	4	6
azil	Direct	..	..	25	24	24	26	27	33	32
	Income	..	..	25	24	24	26	27	33	32
hile	Direct	49	44	48	46	41	40	43	43	38
	Income	39	28	33	29	25	25	24	26	24
	Others	20	16	15	17	16	15	19	17	14
olombia	Direct	48	46	49	51	53	50	50	52	51
	Income	36	35	38	41	43	41	36	38	37
osta Rica	Direct	..	..	11	16	30	24	28	30	27
	Income	..	..	5	7	13	12	16	15	15
	Property	..	..	4	5	4	3	4	4	4
	Others	..	..	2	4	13	9	8	11	8
Salvador	Direct	..	24	23	26	29	31	39	38	39
	Income	..	7	6	6	8	7	5	8	8
	Property	..	4	2	3	2	3	2	2	4
	Others	..	13	15	17	19	21	32	28	27
uatemala	Direct	..	..	22	19	19	19	24	28	29
	Income	..	..	11	10	11	11	8	7	7
	Property	..	..	2	2	2	2	2	2	2
	Others	..	..	9	7	6	6	14	19	20
onduras	Direct	..	..	5	5	5	16	23	22	22
	Income	..	..	1	1	1	13	20	18	18
	Property	..	..	1	1	1	—	—	—	—
	Others	..	..	3	3	3	3	3	4	4
exico	Direct	37	33	39	33	42	46	50	40	39
	Income	24	22	27	22	21	26	28	26	24
	Property	—	—	1	1	1	1	1	1	1
	Others	13	11	11	10	20	19	21	13	14
icaragua	Direct	..	..	7	7	5	7	13	12	12
	Income	..	..	—	—	—	—	—	1	1
	Property	..	..	4	4	3	4	3	3	3
	Others	..	..	3	3	2	3	10	8	8
eru	Direct	43	46	43	45	35	41	38	34	28
	Income	23	21	20	24	18	16	16	20	18
	Property	1	1	1	1	1	1	—	—	1
	Others	19	24	22	20	16	24	22	14	9
enezuela	Direct	10	15	25	27	28	30	27	30	33
	Income	9	13	22	22	25	25	22	25	28
	Property	—	—	—	—	—	—	—	—	—
	Others	1	2	4	5	3	5	5	5	5

Source: Official statistics.

2. TAXATION ON PERSONAL INCOME

(a) *Types of systems and importance of taxes on personal income*

In some of the Latin American countries—Argentina, Brazil, Chile, Peru and Venezuela—individual contributors are taxed in accordance with a system of schedules, based on a scale of differential rates contingent upon the source of income, and a progressive surtax on global income.

The universal personal income tax with a single progressive rate is found—although with certain variations—in Colombia and the Central American countries. In Colombia, the progressive tax on personal income is accompanied by a surtax on property, which is also progressive, and provides a means of discriminating between income accruing from capital and earned income. In the Central American countries, except for Guatemala, where the incidence of the tax is limited,[9] the system applied takes the form of a single tax on the contributor's global income.

Mexico supplies an instance of a middle course between the unitary tax on global income and the schedular system. Income is also divided into several categories and schedules, but a different progressive scale is applied for each of these. There is no specific progressive rate affecting the whole of the taxpayer's income from various sources.

Three general questions arise in relation to taxation on personal income. The first relates to the share of total income tax revenue which receipts from this source represent, and recent trends in their participation; the second, to the efficacy of the prevailing systems as a means of collecting funds; and the third, to their degree of progressiveness.

No general conclusions can be reached on the first point, owing to the inadequacy of the available statistics. Nevertheless, in those countries for which data can be obtained, the contributions of the individual taxpayer constitute a large proportion of income-tax receipts in general. (See table 24.) In Brazil, they account for 45.6 per cent of total revenue from income tax, in Argentina for 37.6 per cent, and in Chile for 25.9 per cent. The figure for the last-named country, however, if the taxes imposed on the large mining companies are excluded rises to 55 per cent. In Colombia, the tax on person amounted to 37.9 per cent of total income taxes in 195

Table 24. Latin America: Share of tax on persons in total income tax in selected countries[a]

Countries	Year	Total revenue from income tax	Personal income tax	Percentage
Argentina	1953	5,685	2,141	37.6
Brazil	1953	13,250	6,047	45.6
Chile	1954	29,139	7,557	25.9
Chile[b]	1954	13,614	7,557	55.5
Colombia	1951	282	107	37.9

Source: Official statistics.
[a] Millions of each country's currency units at current prices.
[b] Total revenue, excluding taxation on the large foreign mining companies.

The evolution of income tax in Latin America durin recent years shows no definite trend in relation to th incidence of the tax on individuals and corporations While in Argentina and Chile a decline in the relativ importance of the tax on persons is to be observed, i Brazil the reverse is true. The figures for Colombia d not reveal any clearly defined trend. (See table 25.)

Table 25. Latin America: Percentage of total incom tax represented by tax on persons in selected countrie

(Percentages)

Years	Argentina	Brazil	Chile a	Chile b	Colombia
1948......	—	—	26.3	57	39.3
1949......	61	—	33.1	57	40.3
1950......	65.8	—	33.5	59	38.2
1951......	48.1	—	27.4	59	37.9
1952......	40.6	38.8	16.4	55	38.4
1953......	37.6	45.6	22.6	51.4	—
1954......	—	—	25.9	55.5	—

Source: Official statistics.
[a] Including taxes on the large mining companies.
[b] Excluding taxes on the large mining companies.

(b) *Level of basic exemptions for personal income*

One of the most serious limitations to be noted in the system of personal income taxes in the under-developed countries is the small number of persons subject to taxation. In India, for example, from a total population of 360 millions, only 2.5 million are affected; in the United States, where taxation on personal income has reached a high level of efficiency, 25 per cent of the population pays income tax.

In those Latin American countries for which data are available, the scope of personal income tax is very limited. In fact, except in Argentina, the proportion of the total population that is subject to progressive taxation is no higher than one per cent. It should be noted, however, that in those countries where the system of schedules is in operation—Argentina, Brazil, Chile, Peru and Venezuela—the number of taxpayers is greater than might appear at first sight, because statistics exclude contributors in the lower-income brackets, who are exempt from progressive taxation but do pay taxes at the proportional rates established in the schedules. (See table 26.)

Table 26. Latin America: Population subject to progressive personal income tax[a]

Countries	Year	Population (thousands)	Number of taxpayers	Percentages of total
Colombia	1952	11,844	107,394	0.9
Chile	1953	6,415	57,911	0.9
Venezuela	1953	5,440	52,878	0.9
Argentina	1954	18,742	283,311	1.5
Brazil	1954	57,098	309,000	0.5
Peru	1954	9,275	4,473	0.05

Source: Official statistics.
[a] Figure subject to revision.

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[9] There are only partial taxes on the profits of enterprises and the yield from specified non-property and property investments.

he restricted development of taxation on personal ome in Latin America to date, is attributable to several ses. Among these should be mentioned the existence hin the various countries of areas that have not been orporated into the monetary economy; the large pro- tion of rural population; the low *per capita* income ures—reflected in a high level of basic exemptions—; , finally, the administrative problems which these tors themselves create.

n order to form some idea of the incidence of income , an examination must first be made of the minimum mption level assessed as a multiple of *per capita* ome. A married couple with three children has been en as a base, and the existing situation in Latin erica has been compared with that in other countries.

able 27 shows the prevailing position with respect personal exemptions, in accordance with the pro- dure described. A fundamental difference should, how- er, be noted; in those countries where a unitary tax is imposed on personal income, namely, the Central American Republics and Colombia, there is a basic exemption level above which the progressive scale of rates begins to operate. The situation is different in those countries where the schedular system is applied, since here income tax begins as a proportional rate which differs according to the source of income; subsequently, at a higher point in the income scale, the supplementary progressive tax on global income comes into effect.

ble 27. Income tax exemption in terms of per capita income[a]

	Year	*Exemption limit expressed as a multiple of per capita income*
tin America		
Argentina	1952	
(*a*) Earned income		3.3
(*b*) Other income		2.0
Brazil	1952	4.7
Chile	1953	
(*a*) Earned income		0.5
(*b*) Capital gains		—
Colombia	1953	10.7
Costa Rica	1950	6.7
El Salvador	1950	13.2
Honduras	1950	14.8
Mexico	1953	
(*a*) Earned income		1.6
(*b*) Capital gains		—
Nicaragua	1951	22.7
Peru	1952	
(*a*) Earned income		24.2
(*b*) Other income		—
Venezuela	1952	4.8
est of the World		
Australia	1950	2.2
Canada	1950	2.3
United Kingdom	1950	2.1
France	1950	
(*a*) Earned income		2.6
(*b*) Other income		0.4
Japan	1951	
(*a*) Earned income		2.0
(*b*) Other income		1.7
United States of America	1950	1.9
Burma	1950	21.4
Ceylon	1952	15.0
India	1953	16.8
Philippines	1950	15.3

Source: For Latin America, legislation and statistics of the vari- is countries; for the rest of the world, ECAFE, *Economic Bulle- i for Asia and the Far East,* Bangkok, Nov. 1953, page 8.

[a] In the case of a married couple with three children.

Exemption policies in Latin America assume two forms. In some countries—Brazil, the Central American Republics, Colombia and Venezuela—a general exemption minimum for the various sources of personal income is applied; others—Argentina, Chile, Mexico and Peru—discriminate between earned income and income derived from investment.

As a rule, the high exemption coefficient in the under-developed countries contrasts with the position in the more fully industrialized nations. While in these latter the individual begins to pay income tax when his earnings are between 2 and 2.5 times as great as *per capita* income, in the under-developed countries the tax comes into operation when the multiple earned by the taxpayer is much higher. This disparity reflects the variations in *per capita* income levels from one country to another, but it is also an indication of the differing degrees of success with which income tax has been fashioned into an effective instrument for the levying of resources.

As regards exemption levels in the various countries, Colombia, El Salvador, Honduras, Nicaragua and Peru represent the highest extreme, their exemption coefficients ranging from 10.7 (Colombia) to 24.3 (Peru); it should be pointed out, however, that in Peru the high exemption level applies to earned income. The exemption coefficients for the nations mentioned nearly approach those recorded for the under-developed countries of Asia.

In an intermediate position, with an exemption limit standing at about 4.8 times *per capita* income, appear Venezuela and Brazil; Costa Rica is not far off, with a coefficient of 6.7.

Finally, Argentina, Chile and Mexico (and Peru as far as investment income is concerned), are those Latin American countries where the exemption limit is lowest in terms of *per capita* income. In Argentina, the coefficient of 3.3 is valid for earned income; as regards unearned income the minimum exempt from taxation is double the figure for *per capita* income, because deductions for dependents are smaller for capital income than for salaries and wages. Earned income in Chile has a very low exemption level, while unearned income is subject to taxation whatever its amount. The depressed exemption limit for earned income is partly attributable to the fact that Chile's intense inflationary process has had a regressive effect on personal taxation, because the taxable minimum legally established in absolute values has never been adjusted to the rise in prices. Nevertheless, reforms have recently been introduced with the aim of imparting a measure of flexibility, by fixing the exemption limit as a multiple of the minimum legal salary, which is periodically readjusted in accordance with the cost-of-living index. The level of exemption for earned income is also very low in Mexico, and income from capital is subject to no basic exemption.

These relationships give an approximate idea of the position of the various countries as regards exemption, but no reliable inferences can be drawn from them on a basis of comparability, in view of the disparities between *per capita* income levels. It seemed useful, however, despite the drawbacks of an analysis in absolute values, to show the exemption limits converted into dollars. (See table 28.)

Table 28. Latin America: Income tax exemption levels in dollars

(For a married couple with three children)

		Exemptions	
Country	*Year*	*From progressive tax on global income*	*From schedule tax with proportional rates*
Argentina	1952		
(*a*) Earned income		1,371	1,092
(*b*) Other income		938	629
Brazil	1952	2,282	855
Chile	1953	943	151
Colombia	1953	2,091	—
Costa Rica	1953	1,864	—
El Salvador	1950	2,000	—
Honduras	1950	2,350	—
Mexico[a]	1953		
(*a*) Earned income		349	—
(*b*) Other income		—	—
Nicaragua	1951	3,571	—
Peru	1952	2,854	2,854
Venezuela	1952	6,369	3,185
United States of America	1950	3,000	—

Source: Official statistics.

Note: Conversion rates computed by ECLA were used to convert each country's existing exemption limits into dollars. (See *Economic Survey of Latin America* 1951-52, *op. cit.*, p. 32.)

[a] The schedule tax in force in Mexico comprises progressive rates which differ for the various income categories. In the table the exemptions are grouped in the progressive tax column.

The lowest taxable income level in absolute values is recorded for Argentina, Brazil, Chile and Mexico. This confirms the conclusion previously reached when the same problem was analysed in terms of *per capita* income. Next, with an exemption limit lying between 1,000 and 2,000 dollars, comes Costa Rica. In most of the Central American Republics, as well as Peru, exemption is granted up to the 2,000–3,000 dollars income-step. The highest exemption in absolute values for personal income is found in Nicaragua and Venezuela. In Peru and Venezuela the position might appear contradictory, when the values shown in table 27 as exempt from taxation are taken in conjunction with the fact that the exemption coefficients (in terms of multiples of *per capita* income) are 24.3 and 4.8 respectively. Nevertheless, this apparent anomaly may be explained by the marked difference between *per capita* income in these two countries.[10]

In most of the Latin American countries the absolute exemption limit is below 3,000 dollars, which is the figure registered for the United States; only in Nicaragua and Venezuela is it slightly higher. The relationship described might lead to the conclusion that in the under-developed Latin American countries, with a few exceptions, exemptions for personal income are the same as those prevailing in the United States and in many cases are lower. Such a statement, however, might lead to misconceptions, should other considerations not be taken into account. It is particularly important to pay due regard to what may be called relative exemption; when the exemption limit, expressed in dollars, is similar in the United States and the Latin American countries, in these latter the sum exempt occupies a higher place in the country's scale of incomes. In other words, it does not seem advisable to adopt the exemption minimum prevalent in the United States or in other industrialized countries as a standard of comparison for guidance in the formulation of a taxation policy, since this would imply the exclusion from the sphere of taxation of groups whose income level, in the under-developed countries, is medium or high in relation to *per capita* income.

Despite their limitations, the statistics reveal certain clear and definite facts. Firstly, it is patent that in Nicaragua and Venezuela the exemption minimum is high, in comparison with that of both the other Latin American Republics and the more developed countries; in the case of Venezuela, this characteristic is merely a reflexion of the system of governmental financing, which is largely based on the taxes affecting the petroleum sector. Again, there can be no doubt that in Argentina, Chile and Mexico the existing exemption limit is relatively low. In the second place, in those countries where the schedular system is in force, income tax affects more persons than in those that apply a unitary tax to personal income. This is because, under the system of schedules, exemption ceases at a very low income level and in some instances—Chile, Mexico and Peru, for example—is non-existent where income from capital is concerned. On the other hand, in countries where a unitary tax is imposed on global income, while it is true that the basic exemption limit is higher, the progressive scale of rates is applied as from a lower income level; here Colombia and the Central American Republics provide representative examples. (See again table 28.)

The foregoing analysis has an important bearing upon taxation policy. From one point of view, there would seem to be grounds for establishing the exemption minimum at a reasonably lower income level, since this would be a means of augmenting fiscal revenue and probably of securing more effective instruments wherewith to influence the level and distribution of income for economic development purposes. On the other hand, the existing exemptions are justified as an attempt to maintain the available personal income of the under-privileged sectors at a level high enough to cover the minimum outlays that are deemed essential or desirable. But to confine the present analysis to these statements would mean disregarding other factors, relating to the over-all structure of taxation, which are of the highest importance for the understanding of this problem. In point of fact, indirect taxation also affects personal income. For example, where the taxation system is characterized by the prevale of indirect taxes, a low exemption limit may in- ase its regressiveness. Similarly, the effects of a high mption limit might be counteracted by the consump- n tax burden. In the Latin American countries such ations actually do arise, and analyses of the kind cribed would be essential for the formulation of ation policy.

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[10] The foregoing analysis was based on those statistics in table 28 which represent the lowest exemption for each country; consequently, exemption from progressive income tax in countries where the schedular system is in force, and where the smallest exemption minimum corresponds to the proportional tax applied to the various income categories, was not taken into account. A similar procedure was followed in the analysis presented in table 27.

The problem of the exemption minimum is also closely und up with the efficacy and costs of fiscal administra- n. In many countries it has been argued that the stence of a low exemption limit, and the consequent rease in the number of taxpayers whose income is all, involves the employment of more administrative rsonnel and implies higher costs which the increment revenue is not large enough to offset. Although there much to be said for this point of view, the possibility improving the productivity of public administration uld also be borne in mind. Moreover, even if heavier penditure had to be incurred, any evaluation of this uld have to take into account the whole body of aims rsued by the expansion of the field of taxation, and t only the amount of revenue collected.

) *Exemptions applicable to particular types of income*

All income tax legislation includes a series of exemp- ons designed to serve social ends and to provide eco- mic incentives. An interesting and highly controversial estion relates to the inclusion of capital gains under e head of taxable income. On this subject opinions ffer from one Latin American country to another. In onduras and Guatemala, capital gains are considered taxable income, since all periodic or exceptional addi- ons to the taxpayer's property are defined as income r purposes of taxation. In El Salvador too, capital ins are calculated as income, but are subject to a ecial tax.

Argentina imposes a proportional tax on capital gains hich affects all those obtained from the sale and trans- r of goods or real estate; in the determination of xable income, it is permissible to deduct a part of the urchase cost for every year up to the date of sale. An per cent tax is imposed in Brazil on capital gains erived from transfers of real estate, also with propor- onal annual discounts. Peru applies a tax with a pro- ressive rate rising from 7 to 15 per cent on the differ- nce between the basic value fixed by law and the sale rice. In Venezuela, net profits derived from an increase the value of real estate are taxed at a rate of 3 per ent. In Chile, Colombia, Costa Rica, Mexico and Nica- agua capital gains are exempt from taxation.

Classic doctrine excludes capital gains from the defi- ition of income because they constitute exceptional and ot periodic income. This attitude presupposes a situa- on of economic stability. It may well be asked whether is either justifiable or advisable to apply this concept the Latin American countries, many of whose eco- omies are in actual fact affected by a chronic infla- onary disequilibrium which may impart a permanent haracter to capital gains, if the rise in prices is not onfined to a reflection of the devaluation of the cur- ency. Again, during periods of disequilibrium, the ease ith which capital gains are obtained may lead to an crease in speculative investment at the expense of resources that might be used for real capital formation. For these reasons, some countries have studied the possibility of utilizing the tax in question as a reasonable instrument for levying fiscal revenue and for preventing distortions in the structure of investment. Nevertheless, if this principle is put into practice, it raises technical problems; hence it has also met with opposition.

Besides capital gains, another type of personal income which is accorded special treatment under the legislation of a number of countries, is that accruing from the payment of dividends. In Argentina, dividends have to be included in the personal income return, but the law allows that part of the tax already paid through the corporation to be discounted. In Venezuela, income of this kind is exempt from both the proportional and the progressive tax. In these two countries, the prevailing criterion is that to tax both the corporation and the shareholders constitutes double taxation.

Great weight has been attached in most of the Latin American countries to the concept that the juristic person represented by the corporation and the natural persons represented by the shareholders are different entities and therefore must be considered separately for income-tax purposes. Consequently, not only the profits of the corporations, but the dividends received by the shareholders are subject to tax. Thus, in Chile, individuals in receipt of income of this type have to pay a proportional tax of 18 per cent plus the progressive rate corresponding to the supplementary global tax. As an incentive to reinvestment, however, shares distributed in lieu of dividends are exempt from the proportional tax. In Colombia, where dividends used to be exempt from personal income tax, they have been subject, since 1953, to the progressive global rate. In Mexico a progressive tax is paid on dividends under the appropriate schedule, while in Brazil, dividends on nominal shares, although exempt from the flat-rate schedular tax, are affected by the supplementary progressive tax.

Finally, the types of personal income on which exemptions are granted also include income from savings deposits, as well as interest paid by official credit institutions or accruing from national debt bonds. With regard to these last, the aim has been to promote a market for government securities which will permit the expansion and canalization of private savings; in practice, exemption works out as equivalent to an increase in the rate of interest. Experience in this field does not seem to have been very encouraging, save in exceptional cases, as other factors have exerted a stronger influence on the channelling of savings and investment than have the rates of interest alone. Moreover, it should be borne in mind that exemptions of this type may have, alongside their proposed positive effect, a negative repercussion on the tax burden, by enabling the higher-income groups to invest in securities of this kind in order to evade income tax.

Income deriving from social security indemnifications and insurance benefits also enjoys favourable treatment under the legislation of certain countries. Exemptions of this kind are recognized by Argentina, Brazil, and Venezuela. Argentina makes them conditional, in the case of income from insurance policies or pensions, upon the fact that the benefits concerned are payable on account of death or disability.

(d) *Methods of discriminating between earned and unearned income*

In all taxation systems, individual income tax pursues two basic aims: satisfactory adjustment to the capacity for payment of the taxpayers, and differentiation between earned income, income from investment and that from mixed sources. The former objective is achieved by means of the progressive scale of rates, and the latter through discriminatory rates and exemptions or deductions.

The situation is modified according to the system prevailing in each country. Where the schedular tax is applied, discrimination is exercised by means of differing rates for the various sources of income. (See table 29.)

Table 29. Latin America: Schedular income-tax rates by sources of personal income in selected countries

(Percentages)

	Salaries and wages	*Non-property investment*[a]	*Property investment*	*Dividends*	*Professional earnings*	*Trade and industry*
Argentina	7	7	7	—	7	7
Brazil	1	10	3	10[b]	2	—
Chile	3.5	25	—	18	9.6	—
Mexico[c]	—	10	10	15	—	15
Peru	6	15	8	—	7	—
Venezuela	1	3	2.5	—	2	2.5

Source: Income tax legislation.

[a] Excluding dividends.

[b] Nominal shares. Bearer shares pay 20 per cent.

[c] In Mexico, differentiation is achieved through progressive rates for each schedule, except for non-property investment and dividends.

It is in Brazil and Chile that the tax discrimination between investment income and earned income is most strongly marked. In Chile, while the latter is subject to a proportional tax rate of 3.5 per cent, income from non-property investment and from dividends pays tax at rates of 25 and 18 per cent respectively. In Brazil, the differential rates are one per cent and 10 per cent for earned and unearned income respectively; here, dividends are not subject to the proportional category tax and are affected only by the supplementary progressive tax.

In Venezuela, where the degree of differentiation is very slight, the highest rates are those for non-property investment; next come those for income from property and for that deriving from trade and industry. The structure of its taxation system makes Colombia an interesting case within Latin America. As has already been pointed out, the system in use is that of the unitary personal tax with a progressive scale of rates. The means of differentiation is constituted by a supplementary tax on personal property at progressive rates.

In Mexico, where the system occupies an intermediate position between the schedular tax and the unitary personal tax, differentiation between earned and unearned income is secured by means of progressive scales of rates differing according to the type of income, with the exception of dividends and distributed profits, which are subject only to a proportional tax.

The basic factor in discrimination between earned and unearned income is the tax structure. But in certain countries—Argentina, for instance—the method utilized is that of a higher basic exemption limit for earned income. In other cases, like those of Chile and Mexico, special exemptions for earned income accentuate the differentiation already established by the tax rates.

(e) *Progressiveness of taxes on individual income*

The degree of progressiveness of taxes on personal income depends not only upon the scale of rates, but also on the income level above which the tax becomes progressive.

In the Latin American countries, as a general rule, the progressive rate comes into effect at a relatively high income level in most of those countries for which data are available, namely, Brazil, Colombia, Honduras, Nicaragua, Peru and Venezuela. In Argentina, Chile and Mexico, on the other hand, this level is lower. Stress should be laid on the fact that in Venezuela the amount exempt from progressive taxation is over 6,000 dollars, a remarkably large figure in comparison with those registered not only for the other Latin American countries but also for the United States.

The statistics given in table 30 reflect the incidence and progressiveness of taxation on personal income, proportional and progressive taxes being taken together. Broadly speaking, the position of the Latin American Republics as regards the scale of progressiveness lies midway between that of the under-developed countries of Asia and that of the highly-developed nations. Two outstanding exceptions represent extreme cases. Chile has a highly progressive scale of tax rates, similar to that in force in the industrialized countries, especially France; whereas in Venezuela the degree of progressiveness is very slight, even lower than that existing in the countries of the Far East.

Certain conclusions may be deduced from the statistics in table 30 which help to explain why the system of taxation on individual income has advanced so little in the countries of Latin America. In the first place, for the income tax rate to be very high, an income level equivalent to 20 times the *per capita* income must be reached.

30. Progressiveness of taxation on personal ome at various levels of *per capita* income

(Percentages)

	Per capita *income multiplied by:*			
	10	*20*	*50*	*100*
America				
entina				
a) Earned income ...	9.7	16.6	24.3	29.0
b) Capital gains	12.6	19.3	25.3	30.0
zil				
a) Earned income ...	1.0	3.2	7.3	17.4
b) Capital gains	10.0	12.0	16.2	26.1
e				
a) Earned income ...	8.4	16.1	28.9	37.0
b) Capital gains	23.1	31.0	43.4	51.5
ombia	—	0.8	7.6	15.5
ico				
a) Earned income ...	2.2	2.4	6.0	13.1
b) Capital gains	9.1	15.1	19.0	22.1
u				
a) Earned income ...	—	3.8	18.9	27.4
b) Capital gains	16.0	16.0	19.2	26.0
ezuela				
a) Earned income ...	1.0	2.6	3.7	4.7
b) Capital gains	3.0	4.6	5.7	6.9
of the world				
ted States of America	20.5	35.1	53.7	66.8
tralia	25.4	42.0	57.0	62.3
ada	16.1	27.6	41.4	50.9
ted Kingdom	27.5	44.1	64.9	79.4
nce				
a) Earned income ...	9.7	17.5	31.1	44.5
b) Other income	23.6	29.8	40.4	51.4
an				
a) Earned income ...	26.7	38.5	48.3	51.7
b) Other income	29.2	39.8	48.9	52.0
ma	—	—	6.3	10.7
lon	—	0.3	10.0	18.0
ia	—	2.3	5.7	11.6
lippines	—	1.2	9.1	17.8

rces: For Latin America, legislation and statistics of the us countries; for the rest of the world, ECAFE, *Economic tin for Asia and the Far East,* Bangkok, November 1953, 8.

ome countries, such as Colombia and Venezuela, the ortion paid at this level is still very small indeed; olombia it is not as much as one per cent, and in ezuela earned income is taxed at a rate of 2.6 per and income from capital at 4.6 per cent. In other tries—Brazil, Mexico and Peru, for instance—when ipts are 20 times *per capita* income, the maximum lence does not exceed 16 per cent for income from tal; the tax on earned income in these countries is iderably less at the income level indicated. Among Latin American countries, Chile probably constitutes exceptional case, since taxpayers whose income is imes *per capita* income are subject to a much heavier than in the remaining countries; for wages, the lence is 16 per cent and for income derived from property investment, 31 per cent.

roadly speaking, in the countries of the region, con-utors whose receipts are more than 20 times *per ta* income have to pay tax at an increasingly pro-sive rate. Thus, at an income level of 50 times *per capita* income the incidence of taxation on individual income is several times greater than on income 20 times as high as the *per capita* figure. Even so, the incidence of income tax at the high income levels is much lower than in the industrialized countries. In most of the countries studied—except Argentina and Chile—the incidence of the tax is less on income 50 times as large as *per capita* income than on income 10 times as great in the industrialized countries. For taxpayers whose income stands 100 times higher than the *per capita* level, the tax incidence is much the same as it is in the more highly-developed countries for an income 10 times bigger than *per capita* income; in some cases, like those of Colombia and Venezuela, especially this latter country, the incidence is markedly lower. It should be noted, however, that the recent tax reforms carried out in Argentina have accentuated the incidence of the progressive scale at the higher income levels. This circumstance is important for the study of the potential sources of income existent in the Latin American countries which might contribute to the financing of their economic development.

Lastly, it should be pointed out that the foregoing analysis relates to the formal incidence of income tax and is based on an example to which the measures adopted in each country are applied. This means that its real incidence may not be the same, if methods of control and administration are defective and leave room for income-tax evasion. Hence, in some cases, although a system may have a highly progressive scale of tax rates, effective revenue is not as large as these rates suggest.

(f) *The schedular tax or the unitary personal tax on income*

Several of the Latin American countries have in recent years expressed their desire to revise and bring up to date the basic structure of income tax, in order not only to improve it as a source of government revenue but also to transform it into an instrument of economic and social development policy. It must now be considered whether the schedular system or the unitary tax on personal income constitutes the more effective means of attaining these ends.

The system of schedules allows of more regular receipts, and offers administrative advantages because it is easier to collect tax on certain income categories at the source; it also arouses less psychological resistance in the taxpayer. Indeed, in this case taxation at the source often enables part of the taxpayer's income to be deducted without his having a clear idea of what sum he contributes. The fact that fiscal policy, by means of differential rates, can stimulate or discourage specific activities, provides another argument in favour of the use of this system. The objection has, however, been raised that in practice it has resulted in a less progressive form of taxation. In countries like Brazil and Chile, where the schedular system exists, the proportion of income-tax revenue deriving from the supplementary progressive rate applied to individual income is much lower than in those where a general progressive tax is imposed on total income. For instance, in Brazil and Chile the proportion in question amounts to 21.8 and 20 per cent, respectively; in Argentina, on the other hand, it is as much as 45 per cent, and in Colombia 38.4 per cent. (See table 31.)

Table 31. Latin America: Progressive tax as a percentage of personal income tax in selected countries

(Millions of units of national currency units at current prices)

Countries	*Years*	*Income-tax yield*	*Progressive taxation on individual income*	*Percentage*
Argentina	1953	4,753	2,141	45.0
Brazil	1954	15,339	3,211	20.9
Chile[a]	1953	8,267	1,805	21.8
Colombia	1952	281	108	38.4

Source: Official statistics.

[a] Excluding the large mining companies.

Clearly, these facts do not indicate that the scale of rates is less progressive in those countries that have adopted the schedular system, but show that the range of individual income affected by the progressive scale is wider in those countries that impose a unitary tax on income.

The need to increase the resources available for financing economic development and for checking or mitigating the inflationary process, may cause changes in the tax system in certain countries to take the form of the establishment of the unitary tax on global income. This is because a progressive over-all régime imparts greater flexibility to the system for levying revenue—an important consideration if, as income rises, a growing share of it is to be channelled towards investment. Such a reform, of course, calls for a major reorganization of the administrative machinery, which is necessarily more complex than under the system of schedules. But one of the advantages attaching to the form of taxation proposed is the experience acquired in the administration of the surtax or supplementary progressive tax on global income. This advantage, however, is only relative, as in most countries where the schedular system prevails, the supplementary tax has not operated very effectively, because the readjustment of methods of control and administration has not kept pace with the growth of total income and the increment in the number of taxpayers. Consequently, it has proved more expeditious to resort to increasing schedular taxes which are characterized by proportional rates and collection at the source.

The basic problem in connexion with the reform of an income tax régime based on a unitary tax on personal income is that of endowing this system with some of the advantages proper to the schedular tax. It seems worth while to study the possibilities of introducing collection at the source for all or for particular types of income, and to spread payment over a sufficient number of periods to secure a regular inflow of revenue without loss of administrative efficiency.

At all events, the establishment of one system or the other constitutes a problem which can be solved only by means of a more thorough study of the taxation system of each country, and in accordance with the special features of the economic and social structure prevailing in each. An evaluation of this kind must be based on three guiding principles: (*a*) the efficacy of the tax system as a means of transferring resources to the Government, and the degree to which all possible sources of income are tapped; (*b*) the extent to which the system encourages or discourages capital formation; and (the degree of justice with which the tax burden distributed among the various socio-economic groups.

3. TAXES ON BUSINESS ENTERPRISES AND INCENTIVES INVESTMENT

(a) *General structure of business taxes in the Latin American countries*

The system of taxing business enterprises is determin by the type of régime in force. In the Central America countries business taxes are of a progressive nature; th same is true for Colombia and Peru. The former count imposes an additional progressive surtax on busine assets. In countries where the schedular system prevails— that is, Brazil, Chile and Venezuela—the rate is propo tional, but in Venezuela corporations are also subje to the supplementary progressive tax. A schedular syste with progressive rates is applied to business enterpris in Mexico.

As a general rule, discrimination between the differe types of activities does not exist in Latin America, exce in the case of agriculture, to which some Governmen apply a lower rate of taxation. Some export industrie on the other hand, are obliged in certain countries to pa higher taxes. A case in point is that of Chile, where th income of the large mining companies is more heavi taxed than that derived from trade, industry and oth activities. A special example is provided by Venezuela petroleum industry. The aggregate contributions of th companies concerned are made up of a sum equivale to 50 per cent of their net profits. When payments c account of other types of taxation (royalties and oth dues) have been deducted, the remainder, up to the 5 per cent mentioned, is paid as income tax.

The fact that the system of tax rates applied to bus ness enterprises involves the same treatment for all th different activities, without due regard to the varyin degrees of importance of such activities in relation t over-all economic development, has led some countri to consider the possibility of transforming the tax stru ture into an effective instrument for encouraging or di couraging the movement of resources towards given typ of activity. The question has been specifically raise with respect to industry and trade and even to the di ferent branches of manufacturing. As regards trade, has been suggested that discriminatory taxation mig not only produce favourable effects by making oth fields of activity relatively more attractive, but mig also prove an important instrument of anti-inflationar policy, which could be used to limit the heavy receip usually accumulated in the trade sector in the cour of an inflationary process, and frequently reflected i a higher level of consumption among the groups thu benefited, or a propensity towards luxury investment In Chile, a bill has recently been proposed which wou grant more favourable tax treatment to income derive from industry than to that accruing from trade.

In addition to normal income tax, a tax on exce profits also exists in a number of countries, includin Argentina, Colombia, Mexico and Peru. This tax wa applied in Chile until recently, but has now been abo ished. In Brazil, Venezuela and the Central America ublics, business is not subject to an excess profits tax. ome countries this tax was introduced during the as a temporary expedient to mitigate too sharp a stribution of national income. In others, however, as Colombia, it has been permanently incorporated the basic structure of income tax.

he level and structure of the tax rates imposed on ness directly influences the organization and size of rprises in certain countries, apart from the possible ts of the prevailing system of deductions and nptions.

n the basis of the general principle traditionally pted, legislation in some countries is aimed at taxing ted liability companies more heavily, so as to offset advantages they enjoy in the attraction of capital and he guarantee implied by the fact that they are under e supervision. In Chile, for example, corporations a tax of 19.5 per cent, while on the dividends dis- uted a proportional rate of 18 per cent is charged.[11] ere partnerships are concerned, on the other hand, ough they are subject to a higher rate—23.4 per —the profits of the partners are affected only by supplementary progressive rate. In Colombia, the erentiation between partnerships and limited liability panies is very marked, as the latter are subject to a vy progressive rate, while to the former only a small portional tax is applied. In the other countries of the on the system of taxing business enterprises em- ies, either directly or indirectly, means of discrimi- ng between the limited liability company and the nership, although this does not represent any serious acle to investment in the former type of organization.

careful study of this aspect of the prevailing situa- in the various countries may be of great importance the identification of some of the factors limiting the ncing and development of investment. In principle, a favourable treatment might be accepted for limited ility companies to counterbalance the advantages in- ed in this type of organization; nevertheless, in some ntries the objection has been raised that tax policy, ng to the imperative need for the rapid levying of ources, has brought about reforms in the structure ax rates, without regard to the resultant danger of essive discrimination.

matter of special concern is the way in which heavy ation on corporations may affect the financing of new ustrial establishments. A prospective investor, faced several similar alternatives, will probably choose one which does not take the form of a limited liability pany, in which case financing may present greater iculties, as regards both the possibilities of resorting the commercial banks and the attraction of private ing. From the point of view of attracting foreign ital, there is always the risk that a severely discrimi- ory régime may not hold out the greatest inducements, e corporations, being under official supervision, offer best guarantees for the facilitation of association national capital and for security of investment.

nother aspect deserving of consideration and con- ted with the over-all structure of taxation on business income, relates to the repercussions of the system on the size and growth of enterprises. In some countries, the unfavourable treatment affecting limited liability companies handicaps the larger enterprises. In this case, the essential point is the application of a progressive tax on business enterprises. Under the system of progressive taxation on the absolute value of profits, the larger enterprise is more heavily taxed, whatever its rate of profitability may be in relation to the capital invested. As has already been pointed out, this is the system prevailing in Colombia, Mexico, Peru and the Central American countries. In view of the limited information available, no definite conclusions can be reached as to the influence of this method of taxation on the size and growth of enterprises in the countries where it is in force. Nevertheless, in the case of Colombia, where details of the structure are available, this system apparently constitutes a serious obstacle to the organization of limited liability companies and possibly to that of large-scale enterprises.

(b) *Tax policy as an instrument for stimulating and mobilizing private savings*

Apart from its general effect on the volume and composition of investment, income tax may be used to raise the level of savings and to channel resources towards desirable economic activities.

In under-developed countries, particularly in Latin America, steady efforts have been made in the last fifteen years to provide incentives to capital formation within the tax system, mainly through income tax.

Legislation in all countries nowadays includes inducements to attract private savings towards the government securities market, in the shape of total or partial tax exemption for interest payments.[12] In some countries, like Colombia and Chile, the compulsory mobilization of private savings towards either investment in national debt bonds or the financing of specific projects has also been attempted. During the war the Government of Colombia obliged both enterprises and individuals, whose income was above given levels, to invest in national debt bonds. Later, a very efficient method—that of making the purchase of stock issued by the Paz del Río steel mill offset a surtax on income—was applied to finance to the steel making industry. Proof of the purchase of this stock exempts from the tax; otherwise, taxpayers lose the right to acquire the stock and their surtax is considered in arrears.

Compulsory subscription out of private funds exists in Chile, but not to the same extent as in Colombia. While the tax on excess profits was in force, enterprises had to invest in the expansion of their own undertakings or in bonds issued by the Development Corporation. Owing to the low rate of interest on these bonds, the measure resulted only in greater reinvestment. At the present time, industrial and mining concerns are also obliged to invest 5 per cent of their annual profits in housing for workers and employees.

To judge by available information, other Latin American countries have not made extensive use of these methods of mobilizing private savings. Tax policies designed

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Thus the incidence of the two taxes together on the corpora- 's net taxable income is 34.2 per cent; furthermore, dividends t be included in the return of global income for the applica- of the supplementary progressive surtax.

[12] Such measures have already been more fully described elsewhere in the present section.

to promote the reinvestment of savings have generally tended towards more flexible systems of amortization and tax exemption for non-distributed profits.

The utilization of depreciation rates to encourage reinvestment of profits is very important for a policy of financing development. This question, moreover, is closely linked to the inflationary problem in some of the Latin American countries.

In most of these the usual procedure is to calculate depreciation on the basis of purchase cost, the method most commonly applied being that of straightline depreciation. The annual margin allowed for depreciation is computed as a specific and proportional quota, to determine which the value of the amortization unit is divided by the number of years of useful life ascribed to it. Such a system does not favour the expansion of existing enterprises. Consequently, in the last ten years some countries have passed legislation aiming at the achievement of greater flexibility, and authorizing, on given conditions, special and extraordinary amortizations, so as to ensure a larger volume of investment.

In Chile, provision has been made for an additional deduction from taxable income, apart from that normally allowed for amortization and renewal, in order to create a special investment fund exclusively for the expansion of plant and equipment. Moreover, the extraordinary fund may be augmented as the enterprises increase their volume of production; but this additional incentive has proved ineffectual, partly owing to the practical problems involved in determining the increment in the volume of production for the various enterprises.

In Colombia, the taxpayer may apply for an increase in depreciation percentages when the equipment is discarded or becomes useless before the expiry of its probable life-span. Special rates for accelerated depreciation are also allowed when the equipment is in use for more than ten hours daily. In this case, the aim of tax policy is obviously to preserve the capital of enterprises. The second of these provisions, in particular, is very important in under-developed regions, since equipment may be utilized more intensively than in industrialized countries, and the legally-established percentages are based on the experience of the latter.

During the post-war period, as against this system of deductions for extraordinary amortizations, many of the more highly developed countries have used the method known as "accelerated depreciation", as a means of raising the coefficient of the retention of profits by enterprises. Originally this measure was applied to promote the rapid reconstruction of economies ravaged by the war. Accelerated depreciation consists in authorizing higher deduction rates than would be determined by the useful life of the assets; thus enterprises are able to expand production capacity while the amortized equipment is still in use.

No Latin American country has yet set up such a system, although, as previously noted, Colombia does authorize accelerated depreciation, but with the aim of preserving capital when equipment is being worn out rapidly by intensive use. In the context of an economic development financing policy, it seems of vital importance that the countries of the region should study the feasibility of this procedure, taking local patterns an conditions into account, inasmuch as it might be desirabl to replace the present extraordinary amortization methods—sometimes limited and only temporarily effective— by the more general system of accelerated depreciation.

In countries passing through a period of chronic inflation, the problem of depreciation attains greate dimensions. As a rule, the purchasing power of reserve accumulated for the renewal of production assets declines as a consequence of inflation. Where a tax i levied on excess profits, and these latter are calculate in relation to capital that has not been revalued in accordance with the rise in domestic prices, the tax ma handicap the financing capacity of the enterprises. Moreover, the increment in the real tax burden involved b this situation may exert an adverse influence on th entrepreneurs' willingness to invest. In Chile, where th rate of capital formation was thus affected, an effo has been made to tackle these problems by means of system of automatic revaluation of assets, so that profit may be computed on capital values more in line wit the rise in prices. To the same end, a 20 per cent increas in the annual amortization quota was allowed in Argentina, in order to offset the increment in high replacemen costs.

Another of the measures adopted to promote a highe rate of reinvestment of profits is tax exemption for receipts not distributed by the enterprises. In Mexico, u to 10 per cent of reinvested profits is exempt from th 15 per cent tax on distributed profits; for industry an agriculture, the proportion may rise to 20 per cen Recently, total exemption from payment of the 15 pe cent tax on distributed profits was authorized for enterprises which use accumulated reserves for capital fo mation. The application of differential and flexible depreciation rates such as those described is interesting as method not only of creating incentives to the achievemen of a higher coefficient of profit retention, but also promoting the selective allocation of available resource

In Chile, shares distributed by limited liability companies in lieu of dividends are exempt from the propo tional 18 per cent tariff, as long as such dividends co respond to an equivalent amount of capital formation and in the case of partnerships, those partners who d not withdraw their profits from the enterprise are n liable to the progressive global tax, as far as the rei vested sums are concerned.

Until recently a progressive exemption was in forc in Argentina, provided that a minimum reinvestment rat equivalent to 30 per cent of taxable profits was attained.

Among the the Central American countries, only Cost Rica and Nicaragua permit special deductions for rei vestment. In the former, up to 50 per cent of incom derived from agricultural or stockbreeding activiti during the preceding fiscal period may be excluded fro the income tax obligation. In Nicaragua industrial i

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[13] This system was modified during the first months of 1956, an was replaced by another method whereby the amounts invested expansion of production capacity are deducted from the tax ob gation at the following rates: 50 per cent of investments in mo able fixed assets, if such investments exceed 10 per cent of th assets concerned at the beginning of the fiscal year; and 100 p cent of investments in agricultural machinery and implements. 10 per cent deduction is also allowed on the cost of buildin purchased or constructed for production activities.

tments approved by the Ministry of Economy are
luctible.

Although no general trend is apparent in Latin Amer-
towards a reform of the tax system which would
ce a premium on reinvestment of profits and would
mper or discourage their distribution, it is interest-
; to note that some countries have already adopted
v expedients of this kind, involving an approach to
policy which differs from that prevailing in developed
intries. In the latter, the basic problem is how to
intain a high level of employment; taxes are there-
e used to prevent an accumulation of savings which
excessive in relation to investment needs. On the other
nd, the under-developed countries are faced with a
ally different problem: fiscal policy must aim at raising
savings coefficient.

Apart from the efforts made to promote a higher rate
reinvestment, the system of exemptions has been used
guide resources into the channels most likely to benefit
onomic development. As a general rule, exemptions
ve been applied with three ends in view (*a*) to attract
sources towards specific branches of the economy;
) to create incentives for the establishment of new
dustries; and (*c*) to stimulate the movement of re-
urces towards under-developed geographic areas. The
stem has been applied most extensively in connexion
th specific sectors, especially those where private enter-
ise and capital were not in a position to achieve satis-
ctory development. Effort has been particularly con-
ntrated on attracting capital towards the financing of
sic industries and the building of low-cost housing.

In 1940, a programme of incentives to manufacturing
d agricultural development was initiated in Colombia
rough tax exemption for specific branches. In some
ses, the privilege depended on specific conditions
ating to the production capacity and employment level
the enterprises claiming it. These measures, however,
d not constitute a very great inducement, partly because
onetary expansion and the difficulty of importing equip-
ent during the war rendered other economic fields,
pecially investment in real estate and financial under-
kings, more alluring and accessible. During the post-
r period, exemption policy was focused mainly on the
velopment of the steel making industry. Recently,
ter the Paz del Río steel mill had entered operation,
easures were adopted to ensure an internal market for
finished products. Thus, enterprises utilizing more
an 80 per cent of domestic iron and steel as raw ma-
rials are exempt from taxation. In recent times, Co-
mbia has also offered incentives to the production of
ectric energy, according private capital the same
vourable treatment as the official power companies.

In Chile, the tax policy has also created inducements
r the development of certain nationally desirable activ-
es: low-cost housing projects; investment in the plant-
g of artificial forests; the fish and shell-fish processing
dustry; transforming industries manufacturing mining
uipment; and the iron and steel making industry. In
the last named instance, tax privileges are granted only to those Chilean concerns of whose capital at least 60 per cent is subscribed by Chilean nationals or corporations.

Tax exemptions have become an important part of the Mexican Government's policy since 1941, when a law was passed granting five years' tax exemption to such industries as were considered necessary for the country's economic development. In 1946, this law was replaced by another which set up three groups of eligible industries, and extended the original duration of the privilege.

The Colombian Government has accorded tax exemption to enterprises established wherever climate, health or transport conditions have prevented the incorporation of the areas in question into the national economy. Concerns operating in certain northern provinces of Chile, or in the far south, are also subject to a tax treatment involving partial, or in some cases total, exemption from income tax, on condition that a given minimum percentage of domestic raw materials be utilized.

In addition to specific exemptions, many countries take more general steps to encourage the installation of new industries. The efficacy of such measures may, however, be restricted by two important factors. In the first place, the concept of new industries sets up very narrow limits, since it includes only those enterprises which manufacture goods not already produced in the country. Thus, even when additional capital is required in many branches of production, exemption is not granted simply because there is an industry of the same kind already in operation; conversely, the privilege promotes the establishment of other, less necessary industries, merely because they do not as yet exist. The second reason for the relative inefficacy of the legislation described is that, in order to claim exemption, new industries must utilize domestic raw materials either entirely or in excessively high and inflexible proportions. The purpose of such measures is clearly to stimulate demand and thus promote the development of domestic industries producing raw materials—a highly desirable target for a development policy—but it would perhaps be more reasonable and realistic to introduce a greater degree of elasticity.

Lack of data makes it difficult to assess the concrete effects of tax exemption policy on capital formation and the channelling of resources. It is safe to assume, however, that the measures adopted in this field have been of positive aid to the development of the iron and steel industry in Colombia and Chile; moreover, in the latter country they have been successful in promoting the establishment of low-cost housing enterprises. In 1949-54, fiscal exemptions for industrial development in Mexico amounted to 681.1 million pesos, of which 261 million represented income tax. Statistics show that during the period 1940-55, 851 Mexican industries, of which 533 manufacture capital goods and 318 consumer goods, were benefited by tax exemption. The creation of these industries, in their initial stages, involved the employment of 69,974 persons.

Chapter III

PUBLIC SAVINGS AND DEFICIT FINANCING

I. INTRODUCTION

The post-war growth of the public sector in Latin America has been accompanied by accumulated budget deficits which in almost all countries have tended to exceed occasional surpluses and which in some have had profound inflationary repercussions. This trend is a result of the disparity in the growth of government revenue and expenditure. That of fiscal revenue has been irregular and strongly influenced by fluctuations in exports and in the level of economic activity; government expenditure has tended to expand more steadily throughout most of the post-war period.

This disparity is manifest in the marked fluctuations which can be noted in public savings. In certain countries these have even been negative in some years, signifying that current outlays alone have exceeded ordinary revenue; but in most Latin American countries public savings coefficients have generally been superior to those of the respective economies as a whole.[1] Although public savings have not shown any general tendency to improve in relation to fiscal income, in a number of republics they have risen impressively in comparison to both current government expenditure and the gross national product.[2]

On the basis of this comparison, the countries of the region can be divided into two groups: those where fiscal income and savings have risen more rapidly than national income; secondly, those where no such increase has occurred, or where the former have definitely lagged behind the latter. In most of the countries where the relative importance of fiscal income and savings has grown (Mexico, Colombia, Venezuela and some of the Central American Republics), public investment has expanded very substantially and has contributed significantly to the relatively rapid rate of economic growth recorded by these countries. The opposite tendency can be observed in Argentina and especially in Chile, whereas in Brazil public investment has tended to fluctuate considerably and the contribution to economic growth has in large measure been a result of its contra-cyclical timing. An aspect common to most of the Latin American Republics has been the important and at times decisive role played by the external sector in determining these trends.

Not only those Governments handicapped by a lag in revenue and savings but also those which have been favoured by a large expansion have had recourse frequently or even systematically to deficit financing. The methods used to finance budget deficits vary widely from one country to another, but in general it has been difficult to cover these deficits completely without resorting directly or indirectly to the issue of new money. Such inflationary financing has naturally been on a larger scale in the republics where fiscal income has not grown or has tended to lag in relative terms; under these circumstances, government finances have at the same time been one of the major victims and one of the principal contributors to a vicious inflationary circle.[3]

As a result of these trends, public debts have risen, but the increment has generally been smaller than might have been expected from the size and persistency of fiscal deficits, and the relative importance of debt service payments, has almost universally declined. There are several causes of this apparent discrepancy, one of which is the tendency towards a greater increase in floating rather than consolidated debts and the recourse to the issue of new money. This method of financing adopted by some Governments does not enlarge the recognized public debt as much as more orthodox methods and seldom gives rise to service payments. Public bonds, on the other hand, have not found a receptive market and are usually closely held by official financial institutions. Therefore, debt management has in general favoured an excessive expansion of the means of payment and has consequently impeded the effective implementation of monetary and fiscal policy.

The increase in the external debt has been distributed very unequally among the countries of the region and has been accounted for mainly by credits to decentralized investment institutions rather than to governments. It has also been associated more closely than in the past with foreign exchange problems, particularly those arising from general balance-of-payments disequilibria. Thus, of the post-war rise in the region's external debt, Brazil is responsible for approximately three-fifths, most of which is attributable to payments difficulties and is payable over a relatively short period of time. Service payments in such cases represent a serious burden on the future capacity to import, but the majority of Latin American countries are still in a position to absorb a substantial increase in their external debt obligations, provided that such obligations are well distributed as among long-term, medium-term and short-term debt.

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[1] The term public savings coefficient is applied to savings as a proportion of fiscal revenue, while the coefficient of the economy as a whole represents total savings as a percentage of national income.

[2] All the statistical series in this chapter are expressed in current values, unless otherwise indicated.

[3] Owing to the difficulties of evaluating the inflationary impact of government finance, no attempt will be made in this chapter to quantify the contribution of the public sector to inflation in Latin American countries. To do this, it would be necessary to analyse thoroughly the composition of public revenues and expenditures in order to judge whether the income-generating effect of government outlays was larger or smaller than that which they would have had if spent instead by the taxpayer. In cases where the inflationary impact of fiscal policy is apparent, this will of course be pointed out in the text.

II. GOVERNMENT SAVINGS

Government savings are defined as the difference be- en ordinary revenue and current expenditures. These the funds that are available to finance public invest- nt. Since one of the objectives of Latin American vernments is to raise the rate of capital formation, public savings coefficient could logically be expected be larger than that of the private sector so as to in- ase the coefficient for the economy as a whole. It uld not be forgotten, of course, that public savings often subject to rather broad fluctuations, since they resent the net difference between anticipated revenue and projected expenditures. Tax receipts are quite sensitive to changes in the level of economic activity, and especially to changes in the value of exports which directly or indirectly provide a substantial proportion of total fiscal revenue in most Latin American countries. Adjustment of budgeted expenditures to altered revenue prospects, on the other hand, usually follows with a lag. Statistics on public savings coefficients in Latin America confirm both of these observations. (See table 32 and figure II.)

More striking than fluctuations within any one country are the very great differences in the public savings coefficient from one country to another. At one extreme Argentina, where the public sector has dissaved in ee out of nine years and the coefficient has not ex- ded 12.5 per cent in any year.[4] At the other extreme erhaps Venezuela, where since 1947 the savings coeffi- nt has remained relatively high and has moved within narrow range of 35 to 40 per cent. The latter country enjoyed a large and stable fiscal revenue from ex- rts, and the rise in the price level has been moderate. most countries where variations in the savings coeffi- nt have been large, the main cause can be traced her to the external sector or to internal inflation, or both. It is interesting to note, however, that in no ntry is any prolonged trend noticeable in the size of coefficients, with the exception of Argentina and ile, where a marked decline is registered over recent ars.

Since public savings are a function of fiscal revenue d current expenditure, a comparison of the relative owth of these items in relation to the gross product each country should indicate the main sources of the riations observed in the savings coefficients. On the sis of such a comparison, the countries of Latin Amer- can be divided into two groups. In the first group appear Argentina, Brazil and Chile. Public savings coefficients have tended to decline in Argentina and Chile, as current expenditures expanded more rapidly than fiscal revenue. (See table 33.) Since 1947 current outlays of the Argentine Government have also grown much faster than the gross product; the latter, in fact, barely increased in real terms. In Chile, on the other hand, the growth of current expenditure has not exceeded the rise in the gross product during the post-war period as a whole, although such a tendency was noticeable during the years 1950-53. The decrease in public savings has arisen less from an attempt on the part of the Chilean Government to gain a larger participation in the gross product, as is apparently the explanation in the case of Argentina, than from a serious lag in the growth of fiscal revenue. From 1949 to 1954, both current government outlays and the gross product in Chile rose by 400 per cent, whereas ordinary revenue expanded by only 270 per cent, or in exactly the same proportion as the price level. This lag in fiscal income is associated both with fluctuations in receipts from the large foreign mining companies and with inflation.[5] The Chilean Government has as a result received a declining share of the economy's total real resources to finance a rising burden of fiscal responsibilities.

Table 32. Latin America: Savings of central government in relation to ordinary revenue

(Percentages)

	Argentina	*Brazil: Federal Government*	*Brazil: States and Municipalities*	*Chile*	*Colombia*	*Mexico*	*Venezuela*	*Honduras*	*Costa Rica*	*El Salvador*	*Nicaragua*	*Guatemala*
5.............	— 6.6	...	...	19.5	10.9	22.2	40.5	...	...	...	...	...
6.............	—10.7	...	...	11.1	21.9	40.7	18.1	29.2	...	...	12.2	27.9
7.............	12.5	18.6	10.2	15.4	25.3	29.5	38.4	11.0	— 3.7	26.2	6.7	25.2
8.............	10.3	16.1	15.0	24.5	20.6	18.0	39.5	30.6	—25.6	17.8	4.7	13.5
9.............	4.2	14.8	21.0	26.4	20.6	36.9	36.0	32.3	20.9	22.0	15.7	15.2
0.............	2.6	12.9	12.4	9.4	29.7	37.2	34.8	35.3	41.0	22.8	29.8	23.2
1.............	4.0	33.4	20.4	17.3	32.7	48.9	36.7	35.2	38.4	22.1	28.1	31.4
2.............	3.8	25.7	7.4	2.9	29.2	46.0	36.4	...	31.4	19.3	37.0	30.2
3.............	— 3.0	18.2	13.4	—6.3	7.3	39.4	34.5	21.4	29.1	22.5	32.9	36.3
4.............	...	21.7	15.5	—3.5	19.6	27.9	37.8	...	26.7	32.4	...	...
5.............	...	7.4	20.7	...	...	...	...	...	...	...	...	...

ource: Official statistics.

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[4] In no country have social security institutes been included in public sector, but this is especially important in the case of gentina, where funds from these organizations have been used finance most of government investment in recent years. This is question which will be taken up later. Therefore, the inflation- effect of public finances in Argentina has been due not to the ficits of the central government but to the operations of other blic entities, as will be seen later.

[5] The policy of selling foreign exchange at preferential rates to subsidize essential imports has also been an important cause of the slow rate of growth of fiscal revenue in Chile. It has been estimated that between 1950 and 1952, if the Government had sold this exchange for a price closer to its real value, it would have increased fiscal income by an amount larger than the public deficit during these years.

Table 33. Latin America: Revenue, expenditure and savings of central governments compared with the gross product

(Indices at current values)[a]

Year	Ordinary revenue	Current expenditure	Savings	Capital expenditure	Gross product
Argentina (1947 = 100)					
1945	46.1	56.2	...[b]	92.2	53.9
1946	56.9	72.0	...[b]	89.8	73.1
1947	100.0	100.0	100.0	100.0	100.0
1948	124.7	127.7	103.3	259.4	125.8
1949	160.2	175.4	53.9	234.4	150.3
1950	191.7	213.3	40.6	242.1	177.7
1951	290.3	318.5	93.3	353.0	247.3
1952	352.9	387.8	108.6	356.9	282.4
1953	362.1	426.1	...[b]	346.6	319.5
1954	...	...	...	...	354.0
Brazil, Federal Government (1947 = 100)					
1947	100.0	100.0	100.0	100.0	100.0
1948	114.5	117.9	99.2	118.0	112.0
1949	129.8	135.9	103.3	241.5	129.4
1950	141.2	151.1	97.7	297.2	150.1
1951	196.8	161.0	353.3	304.2	181.8
1952	221.0	201.6	305.5	271.7	208.7
1953	269.1	270.6	262.4	434.3	254.2
1954	333.1	320.6	387.8	578.6	328.3
1955	389.2	442.8	154.7	520.9	400.0
Brazil, states and municipalities (1947 = 100)					
1947	100.0	100.0	100.0	100.0	100.0
1948	135.6	119.3	186.5	121.0	112.0
1949	167.8	147.5	347.0	150.0	129.4
1950	190.4	185.5	233.2	187.2	150.1
1951	257.2	227.8	516.8	226.6	181.8
1952	288.8	297.7	210.0	299.2	208.7
1953	353.1	340.5	464.4	341.2	254.2
1954	448.9	422.5	682.5	422.2	328.3
1955	514.9	454.5	1,048.5	448.7	400.0
Chile (1945 = 100)					
1945	100.0	100.0	100.0	100.0	100.0
1946	109.5	121.0	61.6	98.2	120.1
1947	156.1	164.2	123.1	139.6	157.9
1948	211.9	198.9	265.4	123.4	203.7
1949	249.2	227.9	336.9	137.8	224.6
1950	268.0	301.7	129.1	179.3	281.3
1951	380.3	390.8	336.9	277.5	352.4
1952	492.8	594.6	73.5	388.2	462.0
1953	599.4	792.3	...[b]	423.9	662.0
1954	921.6	1,185.4	...[b]	672.3	1,124.2

Source: Official statistics.

[a] The indices given in the table are not comparable on an inter-country basis, as the effect of the rise in price levels, which has varied greatly from one country to another, has not been eliminated. Different base years have therefore been used, according to the statistics available, and in the case of Argentina and Costa Rica, in order to avoid the years 1945-1946, when savings were negative.

[b] These figures are negative.

Table 33-a. Latin America: Revenue, expenditure and savings of central governments compared with the gross product

(Indices at current values)[a]

Year	*Ordinary revenue*	*Current expenditure*	*Savings*	*Capital expenditure*	*Gross product*
Colombia (1945 = 100)					
1945	100.0	100.0	100.0	100.0	100.0
1946	137.8	120.7	277.2	200.2	121.0
1947	184.7	154.9	428.3	261.0	149.3
1948	203.0	181.0	382.8	279.8	176.4
1949	229.5	204.4	434.4	212.9	210.8
1950	311.6	245.8	849.4	303.3	255.2
1951	430.6	325.5	1,290.0	479.8	289.4
1952	473.1	375.9	1,267.2	451.0	320.1
1953	523.9	545.3	348.9	518.2	364.1
1954	653.5	590.7	1,172.8	681.0	421.0
Mexico (1945 = 100)					
1945	100.0	100.0	100.0	100.0	100.0
1946	137.5	104.9	251.6	124.9	132.6
1947	145.3	131.7	192.9	158.6	145.8
1948	157.7	166.4	127.3	147.4	158.3
1949	228.4	185.3	378.8	164.6	173.4
1950	248.3	200.6	415.1	194.2	210.2
1951	355.2	233.3	781.0	312.0	220.9
1952	441.3	306.3	913.0	477.1	253.4
1953	354.4	276.4	627.1	409.8	275.1
1954	421.4	390.0	527.9	441.0	320.9
1955	569.5	...	...	...	...
Venezuela (1945 = 100)					
1945	100.0	100.0	100.0	100.0	100.0
1946	155.1	116.7	328.6	119.1	114.1
1947	220.8	163.1	481.5	204.8	133.1
1948	277.8	217.2	551.3	292.0	162.6
1949	268.3	213.7	514.8	250.9	202.8
1950	300.7	232.6	608.7	334.6	197.3
1951	325.0	252.4	652.8	362.7	208.9
1952	335.4	268.4	637.9	312.7	253.0
1953	376.0	285.6	784.7	308.1	266.3

Source: Official statistics.

[a] See note [a] to table 33.

Table 33-b. Latin America: Revenue, expenditure and savings of central governments compared with the gross product

(Indices at current values)[a]

Year	Ordinary revenue	Current expenditure	Savings	Capital expenditure	Gross product
Honduras (1946 = 100)					
1946	100.0	100.0	100.0	100.0	100.0
1947	113.0	142.0	42.6	133.3	113.1
1948	118.4	116.0	124.1	128.6	119.6
1949	147.0	140.5	163.0	166.7	133.8
1950	183.8	167.9	222.2	257.1	146.2
1951	208.6	190.8	251.8	369.0	167.9
1952	214.0	...	...	...	172.3
1953	231.9	257.2	170.4	538.1	...
Costa Rica (1949 = 100)					
1947	64.4	84.4	...[b]	82.8	...
1948	68.7	109.0	...[b]	76.3	...
1949	100.0	100.0	100.0	100.0	100.0
1950	129.2	96.3	253.5	95.3	...
1951	144.0	112.2	264.3	118.3	...
1952	153.6	133.3	230.4	300.6	...
1953	176.2	158.0	245.2	316.6	...
1954	202.3	187.6	258.3	352.7	...
El Salvador (1947 = 100)					
1947	100.0	100.0	100.0	100.0	100.0
1948	107.9	120.2	73.5	125.7	112.0
1949	127.0	134.1	106.8	114.5	119.5
1950	162.9	170.4	141.7	166.4	142.5
1951	217.7	229.8	183.3	236.2	182.7
1952	230.4	251.9	169.7	246.7	186.6
1953	256.5	269.3	220.4	263.8	224.7
1954	311.3	285.2	384.8	300.0	...
Nicaragua (1946 = 100)					
1946	100.0	100.0	100.0	100.0	100.0
1947	105.5	112.0	58.3	104.3	109.4
1948	121.1	131.5	46.7	139.1	107.1
1949	121.5	116.7	156.7	88.0	109.3
1950	161.2	128.9	393.3	157.6	112.7
1951	204.3	167.4	470.0	276.1	...
1952	276.0	198.1	836.7	460.9	...
1953	326.6	249.8	880.0	568.5	...
Guatemala (1946 = 100)					
1945	...	...	...	...	65.9
1946	100.0	100.0	100.0	100.0	100.0
1947	110.9	115.2	100.0	178.3	117.5
1948	120.5	144.6	58.2	154.3	168.6
1949	125.8	148.0	68.3	133.3	165.1
1950	147.7	157.3	122.8	132.6	184.0
1951	177.7	169.1	200.0	187.6	205.5
1952	196.5	190.2	212.7	180.6	218.4
1953	215.9	190.7	218.5	187.6	219.6

Source: Official statistics.

[a] See note [a] to table 33.

[b] These figures are negative.

The growth of federal government income, current expenditures and the gross product in Brazil was remarkably similar between 1947 and 1954; all three indices have expanded by about 225 per cent, in comparison with a 20 per cent rise in prices. It can be seen in table 34, however, that there was some lag in fiscal revenue up to 1950, which kept public savings from rising; but this situation was corrected by a policy of budget economy in 1951-52. As from 1955, a basic maladjustment has appeared in federal government finances, principally as a result of substantial upward salary revisions, which have sharply raised current expenditure and contracted public savings. The current income and expenditures of states and municipalities in Brazil, unlike the Federal Government have expanded considerably more rapidly than the gross product. This increase in both income and outlays has been rather similar, however, so that savings coefficients have not been affected versely except in 1952, when they fell to only 7 per it for states and municipalities combined.[6] (See again ble 32.)

ble 34. Latin America: The expansion of real scal revenue compared with the growth of current expenditures and the gross product in selected countries

(Percentage changes at constant prices)

	Gross product	*Current expenditure*	*Ordinary revenue*
nezuela (1945-53)	93	107	173
lombia (1945-54)	87	162	190
xico (1945-54)	56	90	105

Source: Official statistics.

The second group of countries is composed of those which the growth of ordinary revenue has surpassed at of current expenditure, and both have increased bstantially more rapidly than the gross product. The sult has been that public savings have expanded not ly absolutely but as a percentage of the gross product, ough not as a proportion of total fiscal income. This the situation that might be expected in a developing untry, where the public sector is obliged to increase participation in national income in order to allocate rising share of total real resources to capital formaon. The countries for which information is available d which fit into this group are Colombia, Mexico, enezuela and some of the Central American Republics.

In Colombia, Mexico and Venezuela—where statistics e more reliable and complete—the expansion of ordiary government revenue has been impressive even when mpared in real terms with the growth of the gross roduct. (See table 34.) Fiscal income has grown about vice as fast as the gross product in these countries spite of a large increase in the latter; and the margin etween revenue and current expenditure has been subantial, especially in Venezuela. A similar trend can e observed in most of the Central American countries nder consideration, although apparently with less uniormity.

The favourable situation of these countries has been ue not so much to internal factors as to the contribuion of the external sector. The role of petroleum in enezuela has already been referred to above. In El alvador, Guatemala and Nicaragua, where export acivities also provide a large share of fiscal income, the wift rise in ordinary government revenue began in 950 and was related directly to the sharp improvement n the terms of trade for coffee. The same factor was nainly responsible for the strong expansion in the reveue of the Colombian Government beginning in 1950, vhen the relative contribution of internal taxes began to decline. In Costa Rica, export taxes also contributed to the sudden rise in fiscal income, due in part to the new tax levied on the banana companies as from 1949; but the rise in import duties was the main contributing factor.[7] In Mexico the greater increase of government revenue over current expenditure and the gross product also began in 1949, as a result of larger export tax receipts following upon the devaluation of 1948.

The above analysis thus leads to the conclusion that the external sector has been the decisive factor in determining the evolution of public savings in those countries of Latin America which have been favoured by growing or relatively high savings coefficients.

In Chile the external sector has also played a very important role in the decline of public savings.[8] In Argentina and Brazil, on the other hand, it does not contribute a large share of fiscal revenue. This very situation, however, is responsible for the fact that in Brazil the Federal Government did not benefit from the sudden improvement in the coffee terms of trade in 1949-50, since exports are not taxed to any appreciable extent in this country; and the indirect participation of the Government in the greater income generated by the improvement in the terms of trade was weakened by the fact that planters in Brazil are able to evade to a great extent the payment of income taxes. In Argentina, although the stagnation of exports has undoubtedly affected government income indirectly, the main cause of the decline in public savings was the considerable expansion of current expenditure, which was not matched by the moderate increase in revenue.

It is now necessary to analyse to what extent the benefits of the export boom have been sufficient to cover public investment and how far these countries with stable or declining public savings have had to resort to deficit financing.

III. BUDGET DEFICIT

Government budget deficits or surpluses are defined in this study as the difference between public savings and capital expenditure.[9] Given the fact that investment expenditure is fixed by the autonomous decisions of Governments and that savings are somewhat volatile, it is logical to expect that sporadic budget deficits will occur if public authorities attempt to raise their investment to the maximum and maintain the continuity of public works. (See again figure II.) It is difficult to contract or expand capital outlays in exact conformity with the annual fluctuations in public savings. As was pointed out earlier, a reasonable expansion of the public debt to finance worth-while projects is justifiable provided it is financed by the transfer of real resources from the private to the public sector, or by foreign loans. Budget deficits or surpluses can also be an important tool of fiscal policy in maintaining the level of economic activity, or in offsetting the effect of changes in the level of private investment on the rate of capital formation.

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[6] Since current expenditure of local governments may be somevhat underestimated, it can be stated that in general these govrnments have saved a smaller proportion of their income than the 'ederal Government. The fact that they have not been willing to nvest a lesser share of their revenue has raised serious problems vhich will be discussed below. States and municipalities have been onsidered separately from the Federal Government in this chaper, since together they are as important as the latter in the ublic sector of Brazil.

[7] Although official statistics of Honduras show that the sharp rise in government revenue beginning in 1949 came mainly from larger internal direct tax receipts, these in reality also originated from larger income taxes paid by the banana companies.

[8] Although internal factors connected with inflation were also important in Chile, it is interesting to observe that fluctuations in fiscal income are closely correlated with variations in tax receipts from the large mining companies, and that the depressing effect of a decline in exports was reflected in internal tax receipts after a year lag.

[9] Budget surpluses or deficits can also be defined as the difference between current fiscal income and expenditure, so that they would be equal to public savings or dissavings. In this study the definition given in the text has been preferred because it corresponds to the concept employed by Latin American Governments in the presentation of statistics on public finance and because it represents that part of total expenditure which must be financed by credit or by the issue of money.

If budget balances are expressed as a percentage of ordinary revenues (see table 35), far less uniformity exists among the countries of Latin America than was found in public savings coefficients. (See again table 32.)

Table 35. Latin America: Budget balances as a percentage of ordinary income in selected countries

Year	Argentina	Brazil: Federal Government	Brazil: States and municipalities	Chile	Colombia	Mexico	Venezuela	Honduras	Costa Rica	El Salvador	Nicaragua	Guatemala
1945	—65.1	...	...	—14.3	—20.6	—20.1	—18.1	...	...	...	...	...
1946	—57.0	...	...	—19.2	—23.9	2.2	10.5	6.5	...	...	— 6.5	—17.7
1947	—16.8	3.2	—18.7	—14.8	—15.5	—16.7	5.9	—15.8	—23.4	— 0.4	—10.2	—48.1
1948	—50.5	0.2	—12.7	4.8	—22.9	—21.6	— 2.2	5.9	—42.6	—17.3	—16.8	—44.9
1949	—38.6	—14.0	— 4.8	7.7	—11.3	6.4	0.9	6.6	5.5	— 5.2	2.2	—33.1
1950	—34.3	—19.7	—15.9	—13.2	— 1.0	4.1	— 3.7	3.5	29.7	— 8.0	11.5	—17.7
1951	—31.6	9.5	— 5.2	— 7.4	— 2.5	11.7	— 4.1	— 4.9	25.8	—10.7	2.8	—16.7
1952	—25.7	6.7	—22.5	—23.7	— 0.9	0.3	0.6	...	1.3	—13.0	5.7	—11.7
1953	—31.0	— 6.8	—14.6	—30.3	—13.3	— 9.6	8.1	—31.2	1.5	— 8.5	0.3	— 3.3
1954	...	— 5.2	—11.7	—28.1	—13.3	—16.4	...	...	...	3.3	...	...
1955	...	—13.3	— 4.5	...	...	...	...	...	...	...	...	...

Source: Official statistics.

Of the countries with growing or relatively large public savings, Venezuela shows rather small surpluses and deficits which have almost neutralized each other over the period as a whole. Such is not the case with the other countries in this group (Colombia, Costa Rica, El Salvador, Guatemala, Mexico and Nicaragua), although the favourable impact of external sector revenues in 1949-50 is still quite visible in most of them. In general, up to 1949-50 budget deficits were rather large or increasing, after which they fell sharply or disappeared. (See again figure II.) In at least one case (Costa Rica), a large share of the increase in fiscal income was used to accumulate budget surpluses in order to retire a portion of the previously accumulated public debt.

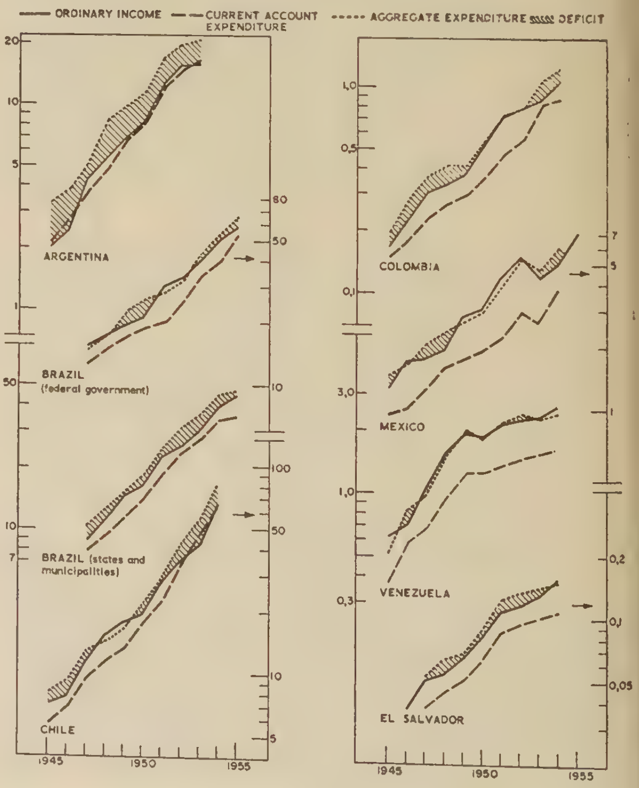
Public investment expenditure of the countries mentioned as having been favoured by a large rise in external sector receipts in 1949-50, increased from two to three times between 1949 and 1952.[10] (See again table 33.) This investment was much greater than that experienced by the other Latin American republics and gives an idea of the extent to which the expansion in public investment in the region has been related to trends in export activities. The rate of increase in public investment was so rapid, in fact, that budget balances again became less favourable, and in several countries sizeable deficits were accumulated. After 1953 external events were again decisive in determining trends in budget balances, although the experiences of the different countries varied considerably.

Figure II

LATIN AMERICA: GROWTH OF PUBLIC INCOME AND EXPENDITURE IN SELECTED COUNTRIES

(Current value in national currency)

Semi-logarithmic scale



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[10] In Nicaragua, the increase was fivefold and in Guatemala less than 50 per cent. In the latter country, trends have not conformed to the pattern noted in the text. Before 1950 budget deficits amounted to between one-third and one-half of ordinary revenue, which was growing at a relatively slow rate. Since 1950 the Government has apparently preferred to employ larger revenues in a reduction of these deficits rather than in a substantial expansion of expenditure.

owards the end of 1953, the terms of trade of coffee in improved very substantially, resulting in a sharp ease in the public revenue of Colombia and the tral American coffee-exporting republics. Statistics the latter countries are incomplete for 1954, but it be observed that in El Salvador successive deficits e converted into a budget surplus during 1954 in e of a 15 per cent expansion in public investments his year. (See again tables 33 and 35.) The Colombian vernment, on the other hand, followed a policy of reasing expenditure to the full extent of the higher enue, so that no reduction in the budget deficit took ce in 1954, although it did not increase. As a result, ce 1945 real public investment has risen by 175 per t in Colombia, an increase which is considerably ater than in any other major Latin American country which information is available. This expansionist icy led to a dilemma in 1955, when the value of fee exports declined as rapidly as it had increased ring the previous year. A contraction in public ex-nditure, to conform to lower tax receipts, would have pressed the level of domestic economic activity; the vernment thus adopted a policy of maintaining pur-ases of coffee stocks from growers and of neutralizing, means of credit and public expenditure, the defla-nary effects of the disequilibrium in the balance of yments. As a result, a considerable budget deficit was obably incurred and special measures had to be opted to correct the trade deficit, including exchange preciation, the implementation of a limited system of ltiple exchange rates and the reimposition of a list prohibited imports.

An opposite contra-cyclical policy was followed in exico. In order to combat growing budget deficits and balance-of-payments disequilibrium, the Government duced expenditure in 1953, but revenue fell even fur-er as a result of the decline in economic activity. Con-quently, expenditure was raised towards the end of e year at the cost of a greater deficit; but the apparent fect of this policy was to increase the liquidity of the onomy, a development which put even more pressure the balance of payments. In 1954, the Government as obliged to resort to the same policy as had been dopted in 1948, namely, considerable devaluation ac-ompanied by heavier export taxes. Although the govern-ent deficit was even greater in 1954, the large increase public revenue during 1955 was again sufficient to void a fiscal deficit and to balance foreign payments.

In Brazil, fluctuations in the budget balances of the ederal Government have been due mainly to changes in vestment expenditure. These outlays grew very rapidly p to 1950 under the stimulus of the SALTE Plan, but e large deficits during the last two years of the period question obliged the Government to adopt a policy of rict budget economy. Consequently, between 1950 and 952 investment expenditure did not increase in spite f a 40 per cent rise in the price level during this period, nd budget surpluses were accumulated in both 1951 and 952. This policy turned out to be compensatory. The eriod of expansion in public investments coincided with very slow upward trend in private capital formation, hereas after 1950 the increase in the terms of trade nd the level of imports stimulated a marked recovery private investment, which was accompanied by con-iderable inflationary pressure.

After 1952, the Federal Government again shifted to a policy of increased capital outlays, which as before outgrew public savings and brought about new deficits. These deficits were injected into an economy in which the aforementioned inflationary pressures had not subsided, and they coincided with the progressive devaluation of the cruzeiro which began with the exchange reform of 1953. By 1955, wage adjustments of public employees had so increased current expenditure, that although federal investment outlays probably did not increase in this year, the deficit amounted to approximately 8 billion cruzeiros, or over 13 per cent of total ordinary revenue.

Throughout the post-war period the finances of local governments have tended to disorganize fiscal policy in Brazil. Mainly as a result of the policy of a few of the large states, the budgets of these governments have shown an annual deficit which in only two years has amounted to less than 10 per cent of the total revenue of states and municipalities combined.[11] Thus, even when the Federal Government was following a policy of budget economy, the effect was largely or completely offset by local government deficits; and deficits suffered by the former were reinforced by those of the latter with serious inflationary consequences.

In Argentina and Chile, fiscal deficits in recent years have been caused more by the decline in public savings than by increases in government investments. In Argentina, large deficits have been recorded in every post-war year. Nevertheless, since 1948, capital outlays have not only lagged behind the rise in the gross product but they have actually decreased in real terms. But since public savings have become more and more negative, not only these moderate investments but even a part of current expenditure have had to be financed with credit. In this respect, it is interesting to compare the evolution of public investments with the relative size of fiscal deficits. (See again tables 33 and 35.) Capital outlays have really increased only twice during the period 1945-53, once in 1948 and again in 1951. During the first two periods of stable investment—1945-47 and 1948-50—the relative importance of the deficits tended to decline; but after 1951 no such trend was noticeable, owing to the accelerated growth of current expenditure and the consequent decrease in public savings.

In Chile also, public investment has tended to lag behind the growth of the gross product and the rise in the price level. Until recently, however, budget deficits have been relatively smaller than those of Argentina, and in 1948 and 1949 the Chilean Government budget even showed moderate surpluses. It is interesting to observe that these surpluses were made possible by the restriction of public investment during these years. This policy coincided with the export recession of 1949, however, and in 1950, the Government decided to expand expenditure considerably, despite a lag in ordinary fiscal receipts during this year, in order to compensate the effect on the level of economic activity. Since then, with the exception of 1952, the state of public finances has tended to deteriorate progressively as the rate of inflation has gained momentum.

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[11] The figure for 1955 is a budget estimate only, and is almost certainly too low.

IV. THE MECHANISM OF DEFICIT FINANCING

There are three ways of covering a budget deficit: (*a*) with cash balances accumulated from the surpluses of previous fiscal years; (*b*) by borrowing, or (*c*) by the issue of new money. Except in the case of Venezuela, the use of the first method has been limited by the fact that deficits have tended to exceed surpluses by a fairly wide margin in most of the other Latin American countries, so that the other two methods have played the most important role. Public borrowing—the kind that represents the transfer of real savings from the private sector or credits from abroad—depends on the availability of loanable funds. Since foreign credits have not been available during the post-war period to finance general public works or budget deficits, Governments (as distinct from semi-autonomous investment institutions or public enterprises) have had to draw mainly upon internal resources to finance their deficits. Securities markets in Latin America are not very highly developed and their capacity to absorb new public bond issues is strictly limited. The banking systems do not usually possess large excess reserves, and their purchases of long-term bonds are restricted by their stringent investment requirements. Since Latin America is a capital-shortage area, the price of money is quite high, so that private financial institutions do not voluntarily purchase more than the minimum of low-interest-bearing securities essential for the diversification of their portfolios. Furthermore, if inflation exists, investors naturally prefer stocks with a variable rate return and offering the prospect of capital gains.

The above considerations in themselves are sufficiently weighty to demonstrate that only relatively small amounts of public bonds are likely to be purchased voluntarily by the private sector. But there is the added problem that budget balances tend to fluctuate violently in Latin American countries, so that the demand for credit on the part of Governments is very unevenly distributed over the course of time and usually bears no relation to the availability of loanable funds. The severity of these fluctuations can be appreciated from table 36, where fiscal surpluses or deficits are compared with total capital expenditures. Although Argentina and Chile are extreme cases in which a part even of current expenditure has had to be financed by credit at times, in all other countries at least half of total investments have had to be so financed in some years.

This situation explains why public authorities have had to show a good deal of ingenuity in finding ways to promote the sale of public securities, and why, failing to cover the full amount of the deficits, they have so often had to resort to measures which directly or indirectly result in the issue of money. It is important to understand how the mechanism of deficit financing has operated in Latin America, although no attempt will be made in this study to give an exhaustive description for each country. A few salient examples of the different methods will suffice. In general, these methods can be divided into three types: (*a*) special incentives to encourage the voluntary purchase of public bonds; (*b*) the obligatory purchase of securities, and (*c*) the creation of money.

It must first be asked what are the features of a security that most appeal to the investor. The answer is safety, liquidity and an attractive rate of return. Public bonds cannot usually compete with private stocks in the latter respect, since there are often legal restrictions on the maximum rate of interest that can be paid, and the burden of public debt servicing must be kept down to a minimum. However, in Chile it has been suggested that adjustable bonds be issued, bearing an interest which varies with changes in the cost-of-living index. This is a proposal which is of course related to the question of security against a loss of purchasing power as a result of inflation. In Brazil, however, some states have in recent years been in such need of credit as to have been willing to sell bonds at so large a discount below nominal values that the effective rate of return has in certain cases amounted to more than 20 per cent, even though an existing usury law makes 12 per cent the maximum interest rate that can legally be charged. Aside from these somewhat exceptional examples, there are other methods which have been used more frequently to increase the remunerativeness of government bonds, such as exemption from taxation or advance payment of interest.

Normally, however, public authorities must endeavour to make the security and liquidity of bonds so attractive that they outweigh the disadvantages of a low fixed rate of return. If a country's currency is unstable or

Table 36. **Latin America: Budget balances as a percentage of ordinary revenue in selected countries**

Years	*Argentina*	*Brazil*		*Chile*	*Colombia*	*Mexico*	*Venezuela*	*Honduras*	*Costa Rica*	*El Salvador*	*Nicaragua*	*Guatemala*
		Federal Government	*States and municipalities*									
1945	—111.3	...	...	— 42.2	—65.4	—47.4	—50.0	...	...	...	...	...
1946	—123.2	...	...	— 63.5	—52.2	5.8	37.9	28.6	...	...	—34.8	—38.8
1947	— 57.3	20.4	—64.8	— 49.0	—34.8	—36.1	17.4	—58.9	—118.6	—13.2	—63.5	—65.6
1948	— 83.0	1.1	—45.7	24.2	—52.7	—54.6	— 5.7	24.1	—249.6	—49.2	—78.1	—76.9
1949	— 90.2	—48.5	—18.6	41.3	—38.5	20.9	2.5	25.7	36.1	—19.0	16.0	—68.6
1950	— 92.8	—60.5	—56.2	— 58.4	— 3.2	12.3	— 9.1	11.1	262.1	—26.1	62.8	—43.3
1951	— 88.7	39.6	—20.2	— 29.8	— 7.1	31.5	—10.1	—12.3	204.0	—32.6	11.0	—34.7
1952	— 87.0	35.2	—75.3	— 89.1	— 2.9	0.6	1.9	...	4.3	—40.3	18.4	—27.9
1953	—110.6	—27.4	—52.1	—126.5	—42.9	—19.6	27.2	—59.3	5.4	—27.4	9.6	— 8.3
1954	...	—19.4	—43.1	—114.1	—40.5	—37.1	...	...	— 0.3	11.4	...	...
1955	...	—64.3	—17.8	...	...	...	...	...	...	...	...	...

Source: Official statistics.

e is a prospect of devaluation, one method of assur- securities is to make them payable in a foreign ency. The drawback of this method is that if a ntry's currency is under pressure, it is usually suffer- from balance-of-payments difficulties, and the pay- t of additional debt services in dollars only ag- vates these and deepens distrust in the stability of national currency. Where there exists full confidence ublic finances, or in the project to be financed, a ernment guarantee is often sufficient to assure the cessful floating of a security, as in the case of the nida Bolivar in Venezuela or the Rio Lempa project El Salvador. These are examples of issues made by i-autonomous institutions, and it is interesting to e that in general such issues have been accorded a er reception by the public than long-term government t bonds.

f the many methods employed to give liquidity to lic securities, the most common are those that make m freely negotiable or discountable at central banks. a number of countries there exist special institutions ich buy and sell official bonds in the open market in er to regulate their value. If the bond market is very all, however, it usually occurs that the regulating lies are themselves the main bondholders, so that in ect the Government purchases bonds from itself with al resources or with bank credit. This is apparently case in Ecuador, for example, where there exists a ndo de Regulación de Valores which receives allot- nts from the government budget, a part of customs eipts and a share of central bank profits to finance its erations. It has been proposed that this institution be laced by a Comisión de Valores empowered to issue nds in foreign currencies in order to attract private pital, which would be devoted entirely to economic velopment projects and not to financing general bud- expenditure as at present. In Mexico, the Nacional nanciera plays a very important role in regulating the curities market, and in this case the institution has not erloaded its porfolio with public bonds.[12] Furthermore, ost of the funds of the agency are provided by so- lled "certificados de participación", which have been ld mainly to the public and represent real private vings.

The high liquidity of government bonds is of course potential threat to the solvency of the institutions sponsible for their regulation and to the effective im- ementation of monetary and fiscal policy. At any mo- ent speculative selling may take place precisely when e Government wishes to reduce the liquidity of the onomy or when it requires substantial new credits self. This occurred in Mexico in 1954, when a wave selling preceded the devaluation, with the result that e Bank of Mexico was obliged to use its own resources absorb a very large amount of government securities. he money thus placed in circulation was largely re- itted abroad and consequently exercised a heavy essure on the already adverse balance of payments.

In Brazil, a measure designed to give liquidity to ublic bonds resulted in serious financial difficulties for e State of São Paulo. So-called "bonos rotativos" were issued which were made valid for the payment of state taxes, and when the amount in circulation exceeded 10 billion cruzeiros, the State found that it was receiving 80 per cent of its income in bonds, which of course could not be used to pay its own employees or defray other public expenditure. The Bank of Brazil was forced to assume responsibility for most of these bonds and to make a voluminous loan to the State to enable it to meet its financial obligations. The method of making government bonds eligible to form part of the legal reserves of the banking system is really equivalent to the creation of money, unless legal reserve ratios are raised by the same proportion, in which case the measure will not stimulate the voluntary purchase of the bonds.

The dangers inherent in maintaining the liquidity of official securities and the difficulties encountered in placing them with the public have led many Governments to adopt the alternative of obliging private financial and commercial enterprises to purchase them. Such measures have taken many forms and have been employed in a number of Latin American countries. Perhaps Colombia may be considered a good example of a country which has resorted to a variety of compulsion techniques. As early as 1940, a decree required insurance companies to maintain at least 15 per cent of their capital and reserves in the form of bonds issued or guaranteed by the Republic. Later, a law was passed obliging all enterprises habitually employing more than twenty urban workers and with a minimum capital of 50,000 pesos to invest 10 per cent of their legal reserves or 2 per cent of annual profits in a bond issue, and savings banks and insurance companies also had to invest not less than 20 per cent of their deposits and 10 per cent of their reserves in such bonds. More recently, when a special tax was imposed on incomes above a certain level, it was provided that if taxpayers could show they had purchased shares in the Paz del Rio steel plant to the full extent of their new tax liability, they would be exempt from discharging it.

In Brazil, the Banco Nacional do Desenvolvimento Económico has been capitalized almost entirely by obligatory loans from the public, which at the end of 1955 amounted to over 6 billion cruzeiros. From 1952 to 1956, taxpayers whose income exceeds a given sum have been obliged to make an additional contribution to the bank, equal to 15 per cent of their income tax liability, and firms must contribute 3 per cent of their undistributed profits. In addition, the Minister of Finance may make the following loans to the development bank compulsory: up to 4 per cent of the deposits of the federal savings banks, 25 per cent of the reserves of private insurance and investment companies, and 3 per cent of the annual receipts of the social security organizations. According to the original law, at the end of 1956 contributors will begin to receive special 5 per cent bonds to the entire extent of their loans. These bonds will be fully negotiable and will be repaid over a period of twenty years in equal annual instalments. If these repayments are financed with the real resources and earnings of the development bank, then the whole operation will not result in the direct creation of new money.

Social security reserve funds are a wealthy source of real savings in many Latin American countries, and several Governments have depended upon them to a great extent to absorb the public debt. In Argentina, since 1946, special bonds (obligaciones de previsión social) designed for the exclusive purchase of these entities have financed the major part of voluminous public deficits. This method is not without its limitations, however, for such reserve funds represent the real savings of contributors which must cover the future payment of social security benefits, so that their investment should be refundable over a reasonable period of time. Furthermore, in Argentina the funds have not all been devoted to capital formation but have even been used to defray a part of current expenditure. In Uruguay, where the Government has also depended principally upon the same source, social security institutions were obliged as from 1953 to restrict their purchases of official bonds in order to meet larger commitments arising from new benefits to contributors.

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[12] It should be mentioned, however, that the Nacional Finan- era has avoided tying up substantial resources in public bonds, rtly because the Banco de Mexico has been obliged to do so.

In spite of measures to enhance the security, liquidity and remunerativeness of official bond issues, it is frequently found that purchases by the public plus cash balances do not provide sufficient resources to cover budget deficits. Under these circumstances public authorities usually resort to credit from the central banks or similar institutions, the resources of which are not limited to the same extent as those of the private banking system because they have access directly or indirectly to new money. In some countries central banks are required to make advances to Governments in lieu of taxes receivable; in Chile such compulsory advances may amount to 12 per cent of total budgeted expenditure. At the end of each fiscal year, in Chile, these credits are consolidated into the "déficit de arrastre" or floating debt and the process begins anew. In Brazil, the Federal Government borrows from the Banco do Brasil, and when the latter requires additional funds, it discounts federal securities in its rediscount department, which in turn is empowered to request new money from the treasury for its rediscount operations. Periodically the Government's debt with the Banco do Brasil and the debt of the latter with the national treasury are cancelled, so that this type of transaction does not even form a part of the floating debt. Since March 1945, when the first of such operations was carried out, eleven cancellations have been effected—two of them in 1955—to a value exceeding 30 billion cruzeiros, or equivalent to three-fourths of the recognized federal debt at the end of 1954.

Thus deficit spending financed in this way results almost directly in the issue of new money. The method of selling to private banks bonds which can be employed as a part of legal reserves or freely rediscounted with the central bank, is equally inflationary, for instead of withdrawing from circulation means of payment which would otherwise have been spent by the private sector, it simply increases the financial capacity of the banking system. Indeed, the sale of government bonds which can be freely discounted or used as reserves permits a secondary expansion of bank credit which tends to multiply the inflationary impact of deficit financing. Furthermore, it gives the banking system a potential liquidity which impedes the application of monetary and fiscal policy.

Before the evolution of the public debt in Latin American countries is analysed, it is worth while to examine briefly some of the main causes of uncontrolled deficit spending. Aside from broader economic considerations connected with sharp fluctuations in fiscal revenue deriving from a decline in exports or other causes, or with a sudden expansion of expenditure on account of emergencies or a contra-cyclical fiscal policy, there are technical reasons related to budget management. First, there is a tendency in Latin American countries to exclude important government operations from the budget and to authorize "créditos adicionales" to cover the deficits so incurred. In Uruguay, for example, the ordinary budget covers only about half of total expenditure, since outlays for road building and upkeep, housing projects, exchange subsidies and social security are not included, nor are public works financed with bonds or the operations of nationalized entities. This situation prevails in a considerable number of countries in the region, and is often related to another practice which reduces the flexibility of the budget.

It has become increasingly customary to earmark a certain proportion of government revenue or the receipts from particular taxes for specific uses. In Brazil, for example, over 30 per cent of the Federal Government's income and up to 50 per cent of that of some states is legally allocated in advance to given projects. Often this revenue does not even pass through the budget but forms a part of the income of some semi-autonomous agency which escapes fiscal control. This system may be a convenient way of assuring the continuity of certain projects, but it reduces the amount of resources freely available to the public authorities for adjustment to changes in budget requirements.

The third technical factor which makes budget control more difficult is the excessive decentralization of the public sector. In Ecuador, for example, not more than 40 per cent of total fiscal income accrues to the central government, autonomous institutions in this case receiving a similar or even greater proportion. An analogous situation exists in many other countries, although mostly on a smaller scale; in Brazil, however, if autonomous and semi-autonomous entities are taken into account, the federal budget includes only about a third of total public sector revenue.[13] In such cases, there is usually a lack of co-ordination in public finance, and different entities actually find themselves competing with one another for income and credit. Failing to cover their operations with their own resources, these entities often fall back on the central government for assistance. Thus, for all these reasons, the authorities responsible for drawing up public budgets are severely handicapped in their task of trying to adjust total eventual expenditure to estimated fiscal revenue.

V. THE PUBLIC DEBT AND ITS FINANCING

Because of the difference in the nature of the internal and external public debt in most Latin American countries, the two types of debt must be analysed separately. The internal debt generally includes outstanding bonds, treasury bills and miscellaneous short-term government obligations, and, in some cases, securities guaranteed by the Government. These liabilities are in most instances the result of recorded budget operations. The external debt, on the other hand, includes credits extended to semi-autonomous agencies and public enterprises, and in some countries liabilities connected with balance-of-

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[13] It should be noted that these percentages are different from those appearing in table 1 of chapter I, owing to the inclusion here of autonomous official institutions.

yments deficits are of major importance. Thus, there is
direct connexion between budget balances and changes
the external debt. In any analysis of the inflationary
plications of the public debt it is also necessary to con-
ler the two types separately, because foreign loans, far
om disturbing the relationship between means of pay-
nt and available goods and services, inject into the
onomy real resources equal to the amount of the
ans.[14]

1. THE INTERNAL DEBT

As was noted in the section on public expenditure, the
lative importance of debt services has tended to decline
most countries during the post-war period. It will also
seen below that the outstanding internal debt does not
general represent an exaggerated proportion of total
rrent budgets. These facts may seem surprising in view
the large-scale deficit financing which has been prac-
ed in many countries, but they are explained by three
incipal contributory causes. First, in the absence of a
ll-developed securities market, the outstanding debt is
ld rather closely by official financial institutions which
ceive only nominal rates of interest, if indeed they are
mpensated at all. Secondly, in those countries where
ficit spending has been most prevalent, inflation has
ually been more severe, with the result that the relative
lue of the debt tends to diminish rapidly with the rise
prices. And thirdly, that part of budget deficits cov-
ed by the issue of new money or included in the float-
g debt does not usually require service payments.

Before an analysis by countries is undertaken, it is
orth while to consider for a moment some of the gen-
al problems of debt management which are common to
any republics. Even in countries where the change in
e price level has been moderate, bond issues exist with
milar repayment periods but with widely different rates
interest and provisions for tax exemption, even though
e bondholders are the same. In addition, short-term
bt to banks or to enterprises which execute public
orks escapes careful fiscal control in some countries and
counts for a disproportionate part of total service pay-
ents. The payment of extremely low interest rates, on
e other hand, while appropriate for debt issues sold to
ficial institutions, tends to discourage voluntary pur-
ases on the part of the public.

The consolidated public debt of Argentina amounted
approximately 47 billion pesos towards the end of
955. More than three-fourths of this sum represents
nds sold to the social security institutes, and most of
e remainder is held by official financial institutions.
his is not a small sum when compared with the total
rrent budget of about 30 billion, and the official con-
lidated debt does not include liabilities to the banking
stem which amount to another 28 billion pesos. In this
tter sum are included the deficit from the operations of
e Instituto Argentino de Promoción del Intercambio
API), principally on the purchase and sale of agri-
ltural products; the deficit of the public transport sys-
m; and, finally, mortgage loans. This floating debt has
en responsible for almost all the inflationary impact of
public sector finances, for it has not represented a transfer of the real savings of the economy such as takes place in the case of the utilization of social security contributions. In spite of the considerable expansion of the public debt in recent years, it is interesting to note that owing to inflation, current liabilities represent a smaller share of the total budget than ten years ago. However, it should be recalled that at that time an organized market for public securities existed, and mortgage operations were financed by the real savings of the community through the so-called "cédula hipotecaria".

At the end of 1954, the total floating and funded debt of the Brazilian Federal Government and local governments was estimated at 108 billion cruzeiros, which was about equal to total budgeted expenditure for 1955. This sum, however, excludes the loans obtained from the Banco do Brasil and later cancelled, and it also omits the outstanding debt of semi-autonomous agencies. The most interesting aspects of the Brazilian debt are its distribution, its recent growth, and the relatively small size of the funded as compared with the floating debt. Of the total debt, 40 billion cruzeiros corresponds to the Federal Government, 40 billion to the State of São Paulo and the remainder to the rest of the local governments. The large share incumbent on the State of São Paulo is the result of the heavy deficits which this government has incurred, and which account for most of the deficit financing recorded for Brazilian local governments during the post-war period. Half the debt of this State is composed of "restos a pagar", or payments pending for the purchase of goods and services, and "bonos rotativos", which are in the process of liquidation. The funded debt of the state amounts to only 7 billion cruzeiros. The debt of the Federal Government is distributed in a similar way. The funded debt amounts to 10 billion cruzeiros and has not changed significantly for many years; the principal items in the floating debt are the liabilities to the Banco do Brasil (which will probably be cancelled in the customary fashion), payments pending, and back contributions owed to the social security system.

The expansion of the floating debt has accounted for most of the recent growth of outstanding public liabilities in Brazil. This debt increased by 100 per cent between 1951 and 1954, while the funded debt rose by scarcely 15 per cent. A considerable proportion of the increase in the floating debt has resulted directly in issues of new currency through the Bank of Brazil, and the inflationary consequences have undoubtedly been enormous. Since 1953, a compensatory item has been the depositing with the Banco do Brasil of the earnings of the Federal Government on foreign exchange transactions, but a large part of this money has been used to finance purchases of coffee stocks and credits to agriculture. Projects for the refunding of the public debt have been under consideration in the Brazilian Congress for several years, but the immediate problem is to bring government budgets into better balance.[15]

The evolution of the internal public debt of Chile gives a vivid picture of the impact of hyper-inflation on public finances. The process has been a vicious circle, because since 1950 deficit financing has itself become increasingly inflationary, as the following estimates in billions of current pesos demonstrate:

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[14] The repayment of a large external debt can of course prove
ite inflationary. In the case of Brazil, for example, current ex-
rnal debt servicing absorbs a considerable part of the country's
pacity to import. This fact in itself significantly reduces the
ntribution of imports to the availability of goods and services.

[15] A federal deficit of 15 billion cruzeiros is forecast for 1956.

		Methods of financing the deficits				
	Budget deficits	*Surplus from previous fiscal years*	*Incidental receipts*	*Revaluation of foreign exchange reserves*	*Bond issues*	*Presumed increase in floating debt*
1950......	2.5	1.0	0.3	—	0.9	0.3
1951......	2.0	—	0.1	—	0.6	1.3
1952......	8.4	—	0.5	—	1.0	6.9
1953......	13.0	—	0.6	2.8	1.0	8.6
1954......	18.6	—	...	...	...	...

The budget deficit of 1951 was somewhat smaller than that of the previous year, but its financing was more inflationary because part of the 1950 deficit had been covered by cash balances accumulated from the 1948-49 surpluses. The deficits of the Government have increased progressively since 1951, much faster than the rise in prices, and the negative balance for 1955 was estimated privately to have amounted to about 38 billion pesos.[16] Most of these deficits have been covered by increases in the floating debt which represent mainly the issue of new currency and which reached an estimated 28 billion pesos by the end of 1954. The money accruing from the devaluation of gold and foreign exchange reserves in 1953 was also completely inflationary and probably resulted in a secondary expansion of bank credit. Public bond issues are mainly held by official financial institutions, and the total amount in circulation at the end of 1954 was 19 billion pesos for the direct debt and 4 billion for that of decentralized organizations. By themselves, these obligations represented only a third of budget expenditure in 1954.

The internal national debt of Colombia has more than doubled between 1953 and 1955, reaching a figure of almost 900 million pesos as compared with a total expenditure of approximately 1,200 million in 1954. The direct cause of such an increase was the series of large budget deficits during the years in question. This change contrasts with the relative stability of the debt between 1948 and 1953. No information is available on the departmental and municipal debt, which was equal to half the national debt in 1953, but probably it too has increased significantly in recent years. If the distribution of the debt has not changed basically since 1953, when a detailed study was carried out, it is still held mainly by official institutions. Almost all national bonds have been sold by means of agreements with the Central Bank and the stabilization fund, which together held 55 per cent of the long-term debt in 1953, or by means of compulsory subscriptions on the part of commercial banks, insurance companies and savings banks, which in the same year held about 30 per cent of the long-term bonds.

In Mexico, the proportion of the internal bonded debt of the Federal Government held by official credit institutions is even larger than in Colombia. At the end of 1954, of the total debt in circulation, amounting to a little under 3 billion pesos, such institutions held over 2.3 billions, most of which sum was in the possession of the Bank of Mexico. To a certain extent this concentration of the debt in a single institution was due to the peculiar situation prevailing in 1954, when the bank was obliged not only to purchase the new flotation of 600 million pesos, but also to absorb a part of the bonds already in circulation which were offered for sale during the liquidity crisis preceding the devaluation. The debt of the state and local governments and decentralized agencies is much more broadly distributed, more than half having been held outside public and private credit institutions at the end of 1953. In 1954 there was also a tendency on the part of the private sector—especially noticeable in the case of individuals—to disinvest in these securities, but it is likely that this trend was reversed in 1955. The largest increases in the public debt were registered in two phases during the post-war years, from 1945 to 1948 and again from 1952 to 1954. In the intermediate period, the Federal Government amortized most of its own floating debt in the Banco de México, and deficit financing by the public sector was limited mainly to short-term credits obtained by decentralized organizations. Again in 1955, even though there may not have been a contraction in the outstanding debt, the expansion was at least much smaller than during the previous year.

The internal public debt of Venezuela is insignificant, amounting to 45 million bolívares or 1.78 per cent of fiscal income in 1953. However, there exists an indirect public debt composed of government-guaranteed obligations issued by autonomous institutions and other public entities, which at the end of 1953 amounted to 260 million bolívares, or about 10 per cent of government revenue. There is also a debt consisting of short-term credits obtained by the public sector and especially by certain autonomous institutions, from private contractors and enterprises. In any event, public debt operations in Venezuela have played a very minor role in government finances, and surpluses and deficits have been related principally to changes in the treasury's cash balances.

The internal public debt of Peru is relatively more important than that of Venezuela, amounting at the end of 1955 to 1,640 million soles or about 60 per cent of government expenditure. However, this proportion has declined markedly over the last ten years, for during the period 1945-55 the debt rose by only 70 per cent while the fiscal budget increased fivefold. Most of the increase in the debt took place between 1951 and 1953, during which years it must have exerted a certain amount of inflationary pressure owing to the manner in which it was financed. Deficit financing in Peru is carried out principally by increasing the floating and short-term debt, which in recent years has been composed mainly of advances from the Central Bank on tax receipts, and is consolidated periodically into long-term obligations. This system is responsible for the fact that about two-thirds of Central Bank credit is tied up in government loans. Since 1953, however, the increase in the public debt has been more moderate.

Ecuador's public debt has also shown a tendency to expand more rapidly in recent years, although at the end of 1954 it still represented only about 25 per cent of central government revenue. The increase in the debt has mainly resulted from the substantial rise in public investment since 1950, a fact which partly accounts for the larger proportion of the outstanding debt that now corresponds to autonomous investment institutions. Also bonds issued to finance the Fondo de Regulación de Valores have contributed significantly to this rise; such bonds represented about 30 per cent of the outstanding debt at the end of 1954. The phenomenon is evidence of the great concentration of government obligations in the ds of public financial institutions, which is due mainly ne undeveloped state of the securities market in Ecua- This deficiency, it should be noted, is not attribut- to monetary instability or to the lack of scrupulous icing of the public debt, but is mainly a problem of anization.

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[16] The Minister of Finance—before the recent financial reform—predicted a deficit of 60 billion pesos for 1956.

2. THE EXTERNAL DEBT

fter a long period during which Latin America's ex- al debt remained almost stable (from the time of the aults of the early 1930's to the end of the war), as n 1945 foreign loans to Governments and official en- s again became available. The flow of foreign capital Latin American Governments and official entities ded to increase progressively in volume during the ade 1945-55, so that, particularly in recent years and pecific countries, it has made a highly significant con- ution to public sector financing. It is unfortunately y difficult to assess the increase in the region's external lic debt during this period, owing to the inadequacy lack of comparability of the information available to the considerable scaling-down of old debt obliga- ns. However, as a rough indication, perhaps a figure 2.5 billion dollars is not far out of line.[17] Although this ital has been very unevenly distributed in certain coun- s, as, for instance, Mexico, it has played a very portant role in public finance.

rom 1945 to 1951, almost one-third of the cumulative lic deficit of Mexico was financed from abroad. (See le 37.) In spite of indemnity payments connected with petroleum and agrarian expropriations of the 1930's, al net foreign financing was greater than the increase the external debt, as a result of substantial donations m abroad, especially those made by the United States vernment for the eradication of foot-and-mouth dis- se. It can also be seen from the table that during the ars 1949-51, foreign funds were even more important an domestic resources in deficit financing. This re- arkable fact can be explained by the origin of the deficit ring the period. It arose mainly from the transactions the decentralized organizations and state enterprises included in the public sector of Mexico.[18] These entities accounted for 900 million pesos of the cumulative deficit during these years, while the Federal Government enjoyed a small surplus. It is precisely this type of official entity which has consistently received most of the new foreign capital available to the public sector, not only in Mexico but also in most other Latin American countries.

ble 37. **Mexico: Financing the deficit of the public sector**

(Millions of pesos)

	1945-48	*1949-51*	*1945-51*
nestic resources	987	412	1,449
eign resources:			
xternal debt	321	372	693
onations	75	376	451
ndemnity payments.	—172	—260	—432
SUB-TOTAL	224	488	712
al deficit	*1,211*	*950*	*2,161*

ource: International Bank/Mexican Government: *The Eco- nic Development of Mexico, op. cit.*, 1953.

The fact that decentralized official agencies (mainly financial and development banks or corporations) and public enterprises have been the principal recipients of foreign loans extended to the public sector in Latin America, makes it difficult to carry out for other countries an analysis similar to that undertaken for Mexico, because public sector statistics in this study have been restricted to cover exclusively government operations. Thus, the transactions of semi-autonomous organizations are included only to the extent of the government transfer payments (subsidies and capital contributions) received. Changes in the external debt therefore cannot be related directly to recorded budget deficits, or even to public investment.

Nevertheless, it can be presumed that if this capital had not been available, then (*a*) government subsidies or capital contributions—and consequently government deficits—would have had to be much greater, or (*b*) the investments of these entities would have had to be reduced, or (*c*) it would have been necessary to replace these funds with domestic resources. Of these alternatives, however, neither (*a*) nor (*c*) would have helped to alleviate the foreign exchange problem; this is the angle that deserves the most attention, for the importance of the post-war growth of the external debt is related not so much to its contribution to global deficit financing as to the relief of the pressure on the balance of payments arising from public investments and other expenditure which absorb foreign exchange. Indeed, a very large part of the recent increase in the external public debt of Brazil and almost all of it in the case of Argentina had no direct bearing on public finances at all, but was intended to reduce the pressure of the adverse balance of payments on the general level of economic activity in these countries. Since the maintenance of employment and economic activity is a generally accepted goal of fiscal policy, this is an aspect which falls definitely within the scope of the present study.

In view of the fact that, as has been pointed out, the increase in Latin America's external public debt has been very unevenly distributed, it is necessary to analyse trends not on a global basis but country by country. Of the approximate increase of 2.5 billion dollars in the outstanding debt, about three-fifths or 1.5 billion was accounted for by Brazil alone, 0.5 billion by Argentina, something over 0.2 billion by Mexico, and the remainder —0.3 billion— by the rest of the countries of Latin America.

Most of the increment in Brazil's external debt resulted from the voluminous balance-of-payments deficits of 1951-52 and 1954. Of the total outstanding external debt of 2.1 billion dollars at the end of 1955, approximately 1.2 billion can be traced directly to these balance-of-payments difficulties. Of this amount, about half is of a short-term nature, comprising principally liabilities arising from the advance sale of exchange to importers; the other half represents an originally short-term debt that has been consolidated into medium-term obligations, most of which are payable over a period of only five years. Of the long-term debt amounting to about 900 million dollars, half is accounted for by economic development credits and the other half by the old bonded debt. The importance of the role of the external debt in Brazil's balance of payments can be gauged from the fact that the post-war rise in the debt is equivalent to the total current capacity to import for one year.

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[17] This figure refers to the increase in the new short- and long- m public debt (credits minus repayments). It includes funds general balance-of-payments purposes, since without them re would have been a greater disinvestment in monetary re- ves and/or a reduction in net foreign investment (the excess imports over exports of goods and services).

[18] Ferrocarriles Nacionales de México, Petróleos Mexicanos, Comisión Federal de Electricidad, Nueva Compañía Eléctrica Chapala, Guanos y Fertilizantes, Banco Nacional Hipotecario Urbano y de Obras Públicas, Comisión México Americana para la Erradicación de la Fiebre Aftosa, etc. Not all the operations of these entities are included in the public sector, but only that part of investment expenditure not financed with their own resources or with public funds.

As in the case of Brazil, the growth of the external debt in Argentina is of recent origin and has sprung mainly from balance-of-payments diffculties. Of the 750 million dollars estimated as the total outstanding debt at the end of 1955, 700 million constitute debts of a short-term or medium-term nature and reflect mainly deferred payments on imports and bilateral payments agreements liabilities. Although only 500 million dollars of Latin America's increased post-war indebtedness were attributed to Argentina, in reality the whole outstanding debt is of recent origin, since the country's external obligations at the end of the war—amounting to 300 million dollars—were practically all redeemed by 1947. Furthermore, in 1949, defaults on external payments caused the normal sources of commercial credit to be cut off, and since then the Central Bank has been obliged to tie up about 150 million dollars of its reserves in prepayments on imports. The recent increase in the external debt (a part of which has, of course, been involuntary) is equivalent to over one-half of Argentina's current capacity to import.

For the rest of the countries of Latin America, the increment in the external debt has not been of such importance to the over-all balance of payments, although the cases of Mexico, Colombia and Chile deserve special mention. The contribution of external financing in Mexico has already been analysed, and it was seen that the net capital inflow was sizeable, despite the considerable payments made on account of indemnities and the redemption of the old debt. The post-war net increase in Colombia's long-term public debt—most of which has been contracted during the last five years for specific development projects—approaches 100 million dollars. In addition to this capital, as from 1954 short-term balance-of-payments obligations have been incurred to supplement the capacity to import. At the end of 1955, liabilities to the United States commercial banks and the International Monetary Fund stood some 100 million dollars above the level of early 1954. The commercial arrears of Chile have also been considerable of late, and the post-war rise in the long-term external debt has been approximately equal to that registered in Colombia, but in Chile's case is of much greater significance for the balance of payments, in view of the relative stagnation of the country's capacity to import. The rest of the foreign capital received by the public sector in Latin America has been spread rather thinly, although in Ecuador it has also been relatively important.

Certain over-all trends are evident from the above analysis. During the post-war period the increase in the external debt has in general been more closely associated than in the past with foreign exchange problems. Most of the old debt represented bonds sold to private individuals or banks in the New York and London markets to cover the cost of general public works or even to balance government budgets. Since the end of the war, most development loans have been designed to cover only the foreign exchange cost of carefully-selected specific projects; and balance-of-payments credits have been extended to consolidate short-term commercial arrears which accumulated in consequence of a shortage of foreign exchange. Most of the new credits have been received from the United States Government (principally the Export-Import Bank) and the International Bank; the relative importance of these creditors in the region's total outstanding debt rose from about 12 and 0 per cent at the end of the war to approximately 30 and 20 per cent in 1955, respectively.

(a) *The burden of external debt servicing*

The loan terms offered by Latin America's creditors differ widely. For example, the International Bank must pay between 3 and 3.5 per cent on its own long-term bonds, so that after adding its commission, it charges between 3.5 and 5 per cent on development loans. The Export-Import Bank, in pursuit of its policy of not undercutting extant market rates, charges approximately the same interest. These rates contrast with an average effective rate of only 2 per cent for Latin America's old dollar bonds. Private credits, of course, carry higher rates and, as a rule, shorter repayment terms. Perhaps a typical pattern of service charges and terms is manifest in the external debt of Colombia, where a detailed study was carried out on balances outstanding at the end of 1952. (See table 38.)

Table 38. Colombia: Financial characteristics of the external debt

(Weighted averages based on the original amount of the actual debt)

Credit institutions	*Interest rate (percentage)*	*Repayment terms (years)*
Export-Import Bank	3.81	14.5
International Bank	4.28	18.6
Private banks	5.57	6.1
Private non-banking firms	4.89	10.8
Total, excluding old bonded debt	4.48	13.4
Total, including old bonded debt	4.00	18.2

Source: Dirección Nacional de Planeación Económica y Fiscal, *Informe sobre la Deuda Pública Externa*, 1954.

Table 38 reveals the wide range of loan terms of different lending institutions and the less favourable financial characteristics of new debt as compared with old debt. These conditions imply that by paying close attention to the problem of scheduling service charges in order to avoid the bunching of payments on short- and medium-term debt, governments can reduce the danger that balance-of-payments difficulties may arise should such payments coincide with a decline in the capacity to import. The same objective can be achieved through balanced distribution of the debt by currencies in the case of those countries which receive payment for a con-rable part of their exports in inconvertible moneys. hermore, unless a loan is expected to earn or save ctly enough exchange to pay service charges, the debt len should be related to the prospective growth of the city to import. These points are mentioned to em- size the advantages of greater centralization of the er to contract external debt. Although some progress his direction has been made recently in Latin Amer- in many countries official institutions or semiautonomous bodies can still make foreign purchases on credit without having to obtain higher authorization, and in countries where central banks or similar institutions assume responsibility for the financing of balance-of-payments deficits, more care might well be taken to avoid jeopardizing the future capacity to import. Table 39 shows the position of selected Latin American countries with respect to the projected burden of external debt servicing.

Table 39. Latin America: External debt servicing in selected countries

Country	*Outstanding debt as a percentage of the capacity to import*	*Service charges as a percentage of the capacity to import*			*Service charges as a percentage of the outstanding debt at the beginning of each year*		
		1956	*1958*	*1960*	*1956*	*1958*	*1960*
Brazil[a][b]	100	11	14	17	13	18	37
Chile[c]	100	12	8	5	13	11	8
Argentina[a] ..	65	22	12	...	34	45	...
Peru	60	7	6	6	12	13	14
Ecuador	55	7	7	5	13	16	16
Mexico	55	7	5	5	15	14	16
Paraguay	55	6	8	6	13	20	23
Uruguay	45	4	4	3	9	10	11
Colombia[c] ...	40	6	5	4	16	16	16
El Salvador ..	20	2	2	1	10	12	12
Nicaragua ...	20	7	2	2	34	23	31

Sources: Outstanding debt and services: Information supplied by the IBRD, except for Argentina and Brazil, where data from official sources were employed. Capacity to import: Official balance-of-payments figures, the average for the years 1953-54. For Colombia and Brazil, 1953 figures were used to avoid the abnormal influence of the coffee situation in 1954.

Note: The debt to the Export-Import Bank and the IBRD includes loans both disbursed and authorized.

[a] Refers to amortization payments only.

[b] Medium-term and long-term debt only.

[c] Excluding short-term commercial indebtedness.

The external debt of Brazil is unique of its kind for relative size, medium- and long-term liabilities being roximately equal to the total current capacity to im- t. If short-term exchange liabilities are included, the t is equal to 140 per cent of the payments capacity. ortization payments begin in 1956 by absorbing 11 cent of the capacity to import and will rise by 1960 a peak of 17 per cent. A similar increase can be noted the rate of return, which is scheduled to exceed one- rd of the remaining outstanding debt by 1960. Fur- rmore, the currency distribution of the service charges extremely unsatisfactory. Sterling payments scheduled 1958 are approximately equivalent to total Brazilian ports to the United Kingdom, while in 1960 dollar ments will account for about 85 per cent of total vice charges and will equal about one-third of the ntry's current export proceeds in convertible curren- s. An added drawback is that these payments must be de at the official rate of exchange, or in other words t the Central Bank must carry a loss equal to the dif- ence between the official rate and the average rate which it purchases exchange (at present about 18 and cruzeiros to the dollar, respectively).

The immediate service burden of Argentina's debt is ce that of Brazil, largely because most of it is com- sed of short-term obligations which have not been con- idated into longer-term debt. Given the country's ance-of-payments situation, the service payments edule for 1956 create a serious problem. However, ce the relation of the total debt to the capacity to import is not disproportionate, the Government has announced its intention to re-negotiate the debt with a view to spacing out the payments more conveniently. The most serious aspect of the problem is that the country, which now requires sizeable foreign development loans, finds its capacity to absorb new debt seriously restricted by past commitments which perhaps contributed very little to capital formation.

The external debt position of Chile is quite different from that of Brazil and Argentina. Although the debt is relatively large compared with the capacity to import, scheduled service charges are relatively light. This can be explained by the fact that more than half of Chile's indebtedness is in old bonds, and that payments on the rest of the debt are well spaced out. It is interesting to note that half of the current outstanding liabilities will not to be redeemed until 1965, and that between 1960 and 1970, total service charges remain at an almost constant absolute level of some 15 million dollars a year. In spite of the satisfactory timing of debt repayments, however, Chile's capacity to absorb new loans will be limited, unless the capacity to import grows more intensively.

Although in other countries of the region the relation of outstanding debt to the capacity to import varies considerably, the burden of service charges displays a rather similar pattern. In both Colombia and Nicaragua, however, the burden seems to be somewhat heavier than is justified by the size of the debt. This discrepancy is explained by the bunching of service charges on short-term and medium-term obligations in the near future. In Colombia, a third of the external debt comes up for redemption during the three years 1956-58; in Nicaragua, over two-thirds of the debt must be liquidated during this period, owing to the unusual magnitude of privately-placed medium-term liabilities, which at the end of 1954 accounted for almost 40 per cent of the country's outstanding external debt. In Ecuador and Paraguay, a similar situation is responsible for the relatively heavy payments scheduled for 1958.

In general, it can be concluded that most Latin American countries are in a position to finance a larger external public debt. It is clear from table 39, however, that if lending institutions and loan terms are not selected with care to avoid a very uneven spacing of service charges, an unplanned debt expansion may lead not only to balance-of-payments difficulties but perhaps to defaults, which might endanger the defaulting country's chances of obtaining future foreign loans.

Chapter IV

EXCHANGE POLICY AS A FISCAL INSTRUMENT

. FISCAL ASPECTS OF EXCHANGE POLICY

principle, exchange policy does not envisage objec- of a fiscal character and in any case such aims are ly stated officially. Nevertheless, there have been or repercussions of this kind since the adoption of ange controls and it is clear that fiscal considerations not only contributed to the permanency of controls have also inspired the reform of such systems.

n early feature of the official control of exchange kets and of the establishment of multiple exchange s was that the State gained a source of revenue which, out falling specifically into any of the traditional gories, clearly had the character of a tax.

he purchase and sale of foreign exchange at differ- al rates, the profits derived from these operations and expenditure of such revenue by the State, are all in nature of a transfer of income from one sector to ther. But, despite the apparent simplicity of the hanism, it is not always easy to establish which sec- have suffered and which have obtained an advantage, the size of the burden or benefit. The purchase by State of the foreign exchange earned by the exporter represent either a surcharge or a subsidy on export vities, according to the purchase price. The same is for imports. If the sales price for foreign exchange igh, this in principle constitutes a tax on imports or the consumption of the goods concerned; a low price ld imply a subsidy for consumption.

ince it is the fiscal aspect of exchange policy that is ng discussed here, the analysis must be made in terms the actual income obtained by the State from the ex- nge system, of the use of this revenue and of the charge or subsidy affecting the different categories of orts or exports, with due regard to their relative posi- n as regards the differential treatment they receive in purchase and sale of foreign currencies. Other consid- tions are discussed only in the case of Chile and with aim of posing a problem worthy of more detailed earch.

xchange policy is also linked with public finance en differential exchange rates, in so far as they are concealed form of taxation, replace regular taxes. An vious example is that of the exchange surcharge ap- ed to imports for purposes of protection and which her operates in conjunction with customs duties or is stituted for them. This device of economic policy may ginate in a tariff which is too low or whose institu- nal rigidity is due to trade agreements or legislation ich cannot easily be modified; again, it may arise from greater adaptability of an exchange surcharge to nging circumstances or simply from practical motives nected with the system of tax collection.

nother interesting case is that of taxation which re- ts directly from modifications of the exchange rate or from certain effects of the rate already in force. For example, at times monetary devaluation has been accompanied by the taxation of exports, in order to obtain as revenue some of the benefits which would otherwise be transmitted exclusively to the export sector; on other occasions, a similar tax for the same purpose has been applied when the profits are due to higher world prices and to prevailing exchange rates which were pegged when market conditions were different.

From a broader standpoint, exchange policy is linked with public finance by the varied repercussions of the former upon internal economic activity, the possible harmful effects of which must at times be offset by a well-balanced fiscal policy. For instance, austerity and financial discipline are usually indispensable when the inflationary effects of a devaluation of exchange rates are to be offset or reduced.

Although the Latin American economies have common features, differences exist which occasion the adoption of diverse exchange policies. The last ten years have been rich in such examples.

The instruments employed are those already familiar, namely, exchange rates which begin as differential rates for purchase and for sale and then split into still others for the individual categories of exports and imports. Each country or group of countries applies different treatment to the same or similar categories. A variety of criteria determine these distinctions, but almost all of them are related to the nature of basic exports and the proportion of aggregate exports they represent, to the relative productivity of export activities and their contribution to national income, and to the characteristics of the world market where they are sold. These criteria are obviously related to the balance-of-payments situation, to the existence or absence of inflation and to the general direction of economic policy. Even so, the objectives are similar in almost every case; maintenance of equilibrium in the balance of payments; selective restriction of imports; higher exports; development of secondary exports; increased investment; and preservation of consumption levels.

II. ANALYSIS BY COUNTRIES

Despite the common objectives noted above, and even where two or more countries can be united in a single group because of the similar nature of their exports, the problems involved are not always identical and as a result both exchange policy and fiscal effects differ. It is thus pertinent to make a special analysis of these problems in four countries where the exchange systems may be considered as representative, before briefly outlining the main features in the other countries as a whole.

1. Chile

Chile's exchange system is one of the most complex and has the most important fiscal repercussions. Since long before 1945, it has been characterized by the existence of multiple and overvaluated rates, as well as by the application of more or less broad controls on imports and exports. But the outstanding feature of the system is the role played by the taxation of the large copper mining companies.[1]

Copper exports carry almost the entire weight of the monetary overvaluation. On the import side, the benefits of overvaluation have been concentrated, in the form of subsidies, on a few commodities which were the most essential or had most effect upon the cost of living.

This transfer of income is based on the very special characteristics of the copper industry in Chile. Productivity is much higher than that of other sectors and mining is carried out by three large foreign companies, which employ less than one per cent of the active population but produce about 8 per cent of Chile's gross income. This is why tax proceeds accruing from copper constitute a large share of fiscal revenue and why the proportion of copper income falling to Chile has grown from 30 per cent in 1929 to 70-80 per cent in recent years. The exchange subsidies established in 1932 have come to represent one of the major items in transfers and in public expenditure, as may be seen in chapter II.

The taxes levied on large mining companies may be classified in four categories: income tax; customs duties; taxes on sales or surtax; and the so-called implicit tax on production costs. The first three categories are collected in dollars which the Government converts into Chilean pesos at a specific rate of exchange; for many years this was pegged at 31 pesos to the dollar and represented the official par value. After devaluation in 1953, the rate became 110 pesos to the dollar.

The implicit tax on production costs represents the difference between the exchange rate at which the Government purchases the dollars which the copper companies must sell to cover expenses payable in Chilean currency, and the rate at which the Government sells the dollars. Between 1935 and 1951, the purchase rate stood at 19.37 pesos to the dollar; as from the latter year, it was applied to only part of the purchases, and exchange rates of 50 pesos to the dollar in 1952, 60 in the following year and 110 in 1954 were applied to the remaining part. Hence the average rates for each of these years were 23, 34 and 62 pesos, respectively. By the Act of 1955, which modified the statute relating to copper, this "returned-value" rate of exchange was established at the average rate applied to the majority of Chilean exports and became 200 pesos to the dollar until November 1955, when it rose to 300 pesos.

Various rates of exchange have been in force for other exports during the last ten years. Thus a small proportion of nitrate shipments was allotted a rate of 19.37 pesos to the dollar and the remainder had a more favourable rate; agricultural exports, wine, fish and the products of the small mining companies, on the other hand, enjoyed preferential rates. At the end of 1955, the prevailing rate for most exports stood at 300 pesos to the dollar and the free market rate was applied to fish, wines and some of the iron ore produced by the small and medium mining companies.

The selling rates for foreign exchange have frequently altered during recent years. Between 1948 and 1950, the rates varied from 19.47 pesos to the dollar for some government transactions to 43.10 for the majority of imports. Essential imports benefited from a rate between 25.10 and 31.10. Successive devaluations of the peso have raised the rate to 110 for imports of sugar, kerosene and antibiotics, to 200 for government imports, official payments and some private purchases, and to 300 for all other imports, except luxury goods which can only be bought at the free exchange rate.

As under any similar *modus operandi*, the fiscal profits on exchange controls accrue from the difference between the average purchase rate of the exchange and the average sales rate. But in the case of Chile—perhaps as in no other country in Latin America—difficulties arise from two circumstances which were mentioned previously: the nature of copper taxation and the monetary overvaluation.

From the fiscal standpoint, Government revenue in dollars comes from two very different sources, namely, from taxation, and from official exchange purchases from the copper companies and the other export sectors. For both, accounting is done in Chilean pesos, for the former at the agreed or official exchange rates already mentioned and for the latter at the actual purchase price. A comparison of the total, in pesos, of this revenue with the sum, also in pesos, derived from the sale of foreign currencies, gives the exchange differential accruing to the Government. (See table 40.)

The first remark to be made on this procedure arises from the method of accounting used for the dollars obtained from the copper companies in the form of taxation. Since these are not dollars purchased by the Government, it is clear that the rate of exchange applied purely for accounting purposes—and even corresponding to the official par rate—is conventional or arbitrary, since it does not represent the real value of the exchange received. If a different method of evaluation were adopted for accounting purposes, the difference would be smaller and might even be converted into a loss. The same is not true of the other exchange operations, including purchases from the copper companies of dollars at the "returned-value" rate, because, in this case, the "cost" of the dollars is expressed by the purchase price.

The sale price—or the price at which the Government sells its foreign exchange—represents the other side of official exchange operations. This price, even allowing for the heavy subsidy on some imports or on official payments, is on the average higher than the purchase price or than the accounting rate at which it appears as fiscal revenue; but, whatever the net result, it is lower than that corresponding to the real par value based on a comparison of the respective purchasing power of the peso and the dollar. In other words, there is apparently a new exchange differential, that existing between the sale price and the real par value. This is obviously not

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[1] The fiscal aspects of the exchange system in Chile and their connexion with copper mining have received more detailed analysis in a recent ECLA study. See "3. Some aspects of the inflationary process in Chile", *Economic Bulletin for Latin America*, Vol. I, No. 1, January 1956, pp. 43 *et seq.*

Table 40. Chile: Fiscal income from exchange differentials[a]

(Millions of pesos at 1950 prices)

Year	Total revenue excluding implicit exchange differentials (A)	Revenue from exchange differentials (B)	(B) as a percentage of (A) (C)	Total revenue including implicit exchange differentials (D)	Revenue from implicit exchange differentials (E)	(E) as a percentage of (D) (F)
1945	17,222	1,964	11	19,807	2,584	13
1946	16,202	1,346	8	19,503	3,301	17
1947	17,542	1,205	7	23,147	5,606	24
1948	20,857	1,721	8	26,157	5,300	20
1949	20,847	1,376	7	26,885	5,039	19
1950	19,850	1,141	6	25,910	6,061	23
1951	21,564	2,204	10	26,852	5,287	20
1952	23,034	1,976	9	33,111	10,077	30
1953	22,409	1,467	6	29,771	7,361	25
1954	19,038	1,046	5	24,659	5,621	23

Source: Official data.

[a] Explicit exchange differentials are the differentials between the selling rates and the effective or accounting buying rate of exchange. Implicit exchange differentials are the differentials between the selling rates and the calculated purchasing power parity rate of exchange.

ctive income which provides a share of fiscal re-
rces, but will in any event represent what the State
s to gain because it sells the exchange at a price lower
n the par value. Even so, two further reservations must
made: firstly, that arising from the similarly artificial
racter of the purchase or accounting price; secondly,
t deriving from the relative nature of the par value,
ch is also affected by the exchange system in so far
the latter influences the level of domestic prices.

f, despite its drawbacks, this procedure for calcula-
is adopted, it may be seen that the "theoretical"
fit, or the exchange differential which did not reach
budget, would have represented more than 20 per
t of fiscal revenue during the last few years. (See
in table 40.)

It is useful, when attempting to assess the subsidy for
ports, to compare the sale price of foreign exchange
d the rate of the real par value. The relationship be-
een them will represent the size of the subsidy. Thus,
subsidy for imports during 1950-53 represented on
average 47.1 per cent of the price in the case of con-
mer goods, 38.1 per cent in that of raw materials, 41.1
r cent in that of fuels and 24.3 per cent in that of
pital goods.[2]

These characteristics of the exchange system in Chile
having broad repercussions upon the whole economy,
ich have already been analysed elsewhere.[3] At the
cal level, they take the form of effective budgetary in-
me, which is mostly derived from the copper-mining
lustry. In addition, the monetary overvaluation causes
ransfer of income from copper—and to a small extent from the nitrate industry—to the community in the form of subsidies on consumption.

This policy of subsidies is to a large extent responsible for the crisis through which the system is passing. The share of the copper industry's high productivity transferred to the national economy has been used for consumption rather than investment; and the maintenance of subsidies, when copper exports declined sharply, has been one of the major reasons for the enormous fiscal deficit in Chile and for the accelerated pace of inflation during recent years.[4]

2. VENEZUELA

Venezuela has some features in common with Chile as a result of the influence of the petroleum industry on the national economy. Like copper in Chile, petroleum in Venezuela is the basic export activity, its exploitation is also in the hands of foreign companies, taxation on petroleum is the main source of fiscal revenue, and the

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Another criterion might be to compare the exchange rate ap-
ed to specific imports with the average rate used for all imports.
vertheless, this procedure would lead to artificial results in the
e of Chile, given the high proportion of subsidized imports.

The study mentioned in footnote 1 to this chapter represents
irst analysis in which the concept of the real par value is ap-
ed and where references will be found to the methodology used
e. See also "III. Inflation and anti-inflationary policy. A. The
mple of Chile", in the *Economic Survey of Latin America,*
4, *op. cit.* pp. 22-38.

[4] The recovery of these exports, as a result of higher world prices for copper, coincided with a radical change in the exchange system which was authorized in April 1956. The reorganization establishes a free rate of exchange, which fluctuates according to supply and demand, and will apply to all imports and exports. The system of import licences is abolished, but only those imports are permitted which appear in a previously prepared list. An annual list of prohibited agricultural exports will also be in force. A prior deposit of a percentage of individual purchases abroad must be made with the Banco Central by every importer, the percentage depending upon a classified schedule; this deposit may exceed 100 per cent. In practice, the exchange differentials thus disappear, especially since the exchange accruing from copper exports is included in the new system, except during 1956 when they will be bought at a rate lower than the anticipated free market rate and up to a value of 30 million dollars. A few imports—sugar, tea, yerba mate, kerosene and antibiotics—will continue to enjoy an exchange subsidy through the reimbursement which the Government will make to importers of the difference between the rate of 300 pesos to the dollar and that which the importer must pay on the free market. In addition to the "banking exchange market", a further money market is also permitted where foreign currencies earned from the tourist trade can be negotiated, as well as exchange deriving from capital transfers, profits, dividends and interest which are not specifically channelled through the banking exchange market.

product generated by petroleum represents 31 per cent of the gross national product, although it uses a very small share of internal productive resources.

These similarities are accompanied by marked contrasts. Dependence upon a single export is far greater in Venezuela; petroleum represents 94 per cent of all exports and the demand and price are more stable than those of Chilean copper, which has been subject to violent fluctuations causing sharp economic disequilibria. Venezuela has no inflation and the level of domestic prices has remained remarkably constant in recent years.

It is on account of these factors that, despite certain common features, Venezuela's exchange policy differs greatly from that of Chile as regards both methods and objectives. In the strict sense, there is no exchange control in Venezuela, except that the petroleum companies are obliged to sell their foreign exchange to the Central Bank at a fixed rate in so far as they require funds to cover their local currency expenditure. Moreover, foreign trade is subject only to restrictions on the import of a few article for protection purposes, the prohibition of exports of strategic materials to certain countries and licences for the export of some commodities considered as essential to the national economy.

The exchange system is thus relatively simple. The petroleum companies must sell foreign exchange to the Central Bank at the rate of 3.09 bolivars per dollar and, if the amount of this exchange exceeds sales made by the Bank during the year, the rate of 3,046 is applied to the difference. A rate of 3.33 bolivars is in force for other exports, except coffee and cacao, which enjoy preferential rates of 4.80 and 4.25 respectively if their world prices fall below a given level; these rates have not been applied in recent years, however. The selling rate is 3.09 bolivars for official payments and 3.35 for all others.

In all its essential aspects, this system has been in force since 1941. Until that date, the disadvantage of the high exchange rate resulting from petroleum exports had been offset for agriculture by direct subsidies, but the latter were abolished when the new system was introduced in 1941.

The exchange differential between the buying and selling rates provides the State with a source of revenue which has, in recent years, amounted to slightly more than 5 per cent of aggregate fiscal resources. (See table 41.)

This income has enabled the State to subsidize coffee and cacao exports and, in particular, to increase ordinary revenue. This, then, is one of the simplest examples of an exchange policy that provides the State with comparatively modest resources which, nevertheless, are by no means insignificant in absolute terms.

Table 41. Venezuela: Fiscal revenue derived from Central Bank profits on exchange

(Millions of bolivares)

Fiscal year	*Fiscal revenue*	*Profits on exchange*	*Percentages of (B) to (A)*
	(*A*)	(*B*)	(*C*)
1945/46	707	11	1.5
1946/47	1,096	44	4.0
1947/48	1,560	76	4.9
1948/49	1,963	62	3.1
1949/50	1,896	103	5.4
1950/51	2,126	111	5.2
1951/52	2,297	114	5.0
1952/53	2,371	126	5.3
1953/54	2,658	137	5.1

Source: Ministry of Finance, Venezuela.

3. Brazil

Brazil's exchange policy differs substantially from that of the countries already examined. The outstanding feature common to all of them lies in the pronounced concentration of exports in a few products, and in one commodity in particular. But, in the case of Brazil, coffee is an agricultural product and is subject not only to violent price fluctuations on consumer markets, but also to the hazards of weather conditions. Moreover, coffee-growing employs a high proportion of national productive resources and has nothing like so high a productivity as the Chilean copper industry or the petroleum industry in Venezuela.

Exchange policy is closely linked to the situation of coffee and is adapted to its vicissitudes. As a rule, revenue is drawn from the coffee sector for the benefit of other activities or of the State itself, but recently, such taxation has been reduced as the coffee market has weakened. In the first instance, the basic export sector has transferred income to other sectors, particularly to consumers and importers and, more recently, to secondary exports. In the second, particularly since 1953, basic exports have been subsidized by exchange bonuses accruing from taxes imposed on importers or on the community as a whole.

The multiple exchange system which had been in force until 1946 was simplified in that year and two rates only were established. Between 1948 and the beginning of 1953 the basic purchase rate stood at 18.38 cruzeiros per dollar while the basic selling rate was 18.72 cruzeiros. For some non-essential imports, certain invisible items and some remittances, a rate of 3 per cent above the basic selling rate was applied; this rose to 8 per cent in January 1952. The restriction of imports during this period was effected through import licences. Despite an increase of 100 per cent in domestic prices during the period 1945-52, those exchange rates were maintained thanks to the rise of approximately 135 per cent in coffee prices. This improvement in the price of coffee, and the somewhat smaller increase in domestic prices, affected both other exports and imports. Secondary exports, entitled "gravosas", were discouraged, since they were obliged to bear the dual burden of a rise in their domestic production costs and of an exchange rate which was excessively overvalued.

Conversely, imports were encouraged by the overvaluation and by the abundant means of payment when controls were slackened with the deliberate aim of increasing supplies from abroad. The low exchange rate did not in many cases prevent a rise in the price of imported commodities on the domestic market and the importer, rather than the consumer, thus reaped the benefits of overvaluation.

It has often been said that during this period the rise in coffee prices obscured or camouflaged the overvaluaof the cruzeiro, which, in point of fact, did not ten coffee exports, because the world market price sufficiently high to provide the coffee sector with ade- e profits.[5] They would have been even greater if a realistic exchange rate had been available. It may be that the share of the profit which was lost through valuation was transferred to other sectors. Secondary rts, prices for which were not sufficiently high to off- he rise in domestic production costs, suffered effective s which also favoured the other sectors.

his is the type of transfer which the exchange system ed up to 1952. The difference between the buying selling rate was too small to produce any obvious rcussions in the fiscal sphere.

he halt in the upswing of coffee prices during 1950-52 the situation of the secondary exports led to the ex- ge reforms of 1953. The first of these, introduced ebruary, created two markets. There was one of an ial character, where the quotations previously fixed e maintained and which was available to basic ex- s, a proportion of secondary exports and essential orts. The other was a free market, where quotations e regulated by supply and demand, and to which the aining proceeds of secondary exports and less essen- imports had access. During the short period when system was in force some changes were made, which ost all tended to an extension of the free market in our of other exports, including coffee and cacao to ie extent.

he second reform, adopted in October 1953, was more ical and is still in force. The most important innova- was the creation of an auction market, which oned the available exchange among imports, accord- to their nature as essential or non-essential, through establishment of an exchange quota for each of the categories and a basic rate for bids. Under this tem certificates are sold which entitle the holder to foreign exchange at the official rate. Hence the real es rate is the sum of the official rate of exchange, the chase price of the certificate and the transfer tax. ports, in turn, are negotiated at the official exchange e, plus a bonus or subsidy.

Several changes have been introduced into this system, nprising the transfer of imported goods from one egory to another, alterations in the subsidies granted d, finally, the introduction of categories for exports well.

The substantial difference between the auction market ling rates and the purchase rates fixed for exports has oduced a large volume of State Revenue. (See table 42.)

The size of these resources becomes evident when they compared with those obtained, for instance, from stoms duties and with aggregate fiscal revenue. From time the system was introduced until December 1955, venue from exchange differentials amounted to 74,316 llion cruzeiros and export subsidies to 47,614 millions. is was possible because, while the exchange rate for ffee rose from 23.36 cruzeiros to the dollar in October 53 to 37.06 in September 1955, and the rate for other exports from 28.36 to 50.06 cruzeiros, the average auction market rates increased from 40.91 to 78.88 cruzeiros during the same period.

Table 42. Brazil: Customs duties, exchange differentials and bonuses to exporters

(Millions of cruzeiros)

Years	*Customs duties*[a]	*Exchange differentials*	*Bonuses to exporters*
1953	1,876	3,987[b]	1,961[b]
1954	2,994	31,201	15,558
1955	2,898[c]	39,128	30,095

Source: Superintendency of Currency and Credit, Brazil.

[a] Excludes so-called "extra-budgetary income".

[b] October-December.

[c] Approximation, based on budget estimates.

The most favoured imports and payments include newsprint, petroleum, coal and essential machinery, some government imports—including wheat—and some official and private remittances. All of these are negotiated at the official exchange rate (18.82 to the dollar), plus a varying surcharge. Other imports are assigned to one of the five established categories, according to how far they are essential for the country's economic development and its supply needs; they are dealt with on the auction market under differing conditions.

Exports, in turn, are classified in four categories, with effective exchange rates of 31.50, 37.06, 43.06 and 50.06 cruzeiros to the dollar, respectively. Coffee was originally included in the first category, but was soon transferred to the second, in which cacao and cotton, among other products, are also included.

According to the latest modifications in the system, the Government will employ the exchange proceeds for the following purposes in the order given: (*a*) payment of bonuses to exporters; (*b*) regularization of the exchange operations carried out for the Treasury before the law came into force; (*c*) long-term financing at low interest rates of the modernization of methods of agricultural production, purchases of products, seed, fertilizers, machinery, etc.[6]

Briefly, then, before the 1953 reform, the high price of coffee enabled consumption to be subsidized through the low exchange rate granted to imports and, in some cases, to secondary exports. The small bonus of 5 cruzeiros per dollar granted to coffee during the first year that the new exchange law was in force had little effect on the transfer mechanism.[7] But the situation changed in 1954, when the deterioration of world prices made it essential that coffee and other products should be subsidized, at least in regard to the official par value of the cruzeiro. Government and essential imports continued for some time to enjoy the benefits of the exchange subsidy, which had practically disappeared by 1955. Hence, the whole incidence of exchange taxation fell on the less favoured imports, that is to say, upon the consumer. The gradual removal of subsidies has aggravated the burden of this taxation.

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[5] See *Economic Survey of Latin America, 1953* (E/CN.12/358), ited Nations publication, Sales No.: 1954.II.G.1, pp. 127 *et seq.* indication is given there of the reservations to which these imates should be subject.

[6] From the time when the system was introduced until the end of 1954, 6,370 million cruzeiros were used to buy coffee surpluses and 2,694 millions for other agricultural loans. (See Banco do Brasil, *Relatorio de 1954*, p. 60.)

[7] Except for imports in the high categories, which ceased to be subsidized.

Brazil provides a typical example of the replacement of customs duties by exchange taxation, both from the point of view of protection and from that of fiscal revenue. This is evident not only from a comparison of the yields of the different sources of revenue, but also from the fact that customs tariffs have remained unmodified for many years.

4. ARGENTINA

Argentina's exports are far more diversified than those of the other three countries examined in this chapter. But the relatively varied commodities which comprise the majority of its sales abroad are all agricultural products. Hence diversification does not prevent the fluctuations resulting from weather conditions which frequently affect the major sectors, nor those arising from changes in world demand and prices, which are often common to nearly all these commodities. External factors, and others deriving from economic policy or industrialization, have brought about a gradual but persistent decline in agricultural activity. This is reflected in the reduction of the area sown, a phenomenon which has been analysed in earlier studies.[8]

The vicissitudes of the crop and livestock sector, which constitutes the basis not only of the capacity to import but also of the whole of Argentina's economy, have determined the main features of its exchange system and vice versa. At times, the system was aimed at protecting rural activities through the granting of preferential exchange rates, at others, the objective was to tax excess profits for the benefit of other sectors of the community. Market instability also led in 1946 to the creation of the Instituto Argentino para la Promoción del Intercambio (IAPI), whose work from that date was closely linked to exchange policy.

Exchange controls and fiscal profits derived from differential rates already have a tradition in Argentina. Until 1939, the prevailing system gave preferential treatment to secondary exports or those shipped to neighbouring countries and permitted exporters to dispose freely of their earnings. Imports were subject to licensing, priorities being given to essential goods or government imports. Multiple exchange rates were established in 1935, while in 1941 the auction or bidding system was introduced. This policy remained practically unchanged until October 1949, when imports were divided into five categories, the last of which was negotiated on the exchange auction market; the rates varied from 3.73 pesos per dollar to 12.53, the most favourable rate being that applied to fuels. Exchange rates for exports ranged from 3.35 to 8.98 pesos, the lowest being assigned to regular or basic exports.

The system was simplified in August 1950, when the number of basic rates was reduced to two—5.00 and 7.50 pesos per dollar—plus a so-called free rate, which was nevertheless officially controlled and which fluctuated around 14 pesos per dollar. The principle of assigning the lowest rates to basic exports[9] and to the more essential imports, and of fixing the highest rates for secondary and luxury imports, remained the same. The simplification was only on the surface, since various combinations of the exchange rates were made, by applying them to percentages of the different goods; a multiplicity of rates thus appeared, even though regular imports continued to be negotiated at 5 pesos to the dollar. This was the prevailing system until it was abolished in 1955. The margin of exchange proceeds reached high figures in some years, when it exceeded revenue from other traditional tax sources.

The drop in world prices and other circumstances unfavourable to the basic export trade caused this margin almost to disappear in 1953-54. (See table 43.)

Table 43. **Argentina: Tax income, exchange margin, internal taxes and property taxation**

(Millions of pesos)

Years	*Aggregate tax income*	*Exchange margin*	*Consolidated internal taxes*	*Property taxation*
1945..........	1,610	98	352	381
1946..........	1,973	227	402	475
1947..........	3,793	663	502	933
1948..........	4,625	613	603	1,066
1949..........	5,574	407	662	1,215
1950..........	7,151	49	881	1,896
1951..........	10,826	1,157	1,745	2,911
1952..........	12,958	778	2,008	3,804
1953..........	12,541	6	2,028	3,792
1954..........	...	81	2,550	3,901

Source: Official data.

It is difficult to understand the working of the system without a reference to the minimum prices fixed by the Government for the purchase of certain products. These prices were established by IAPI on the basis of world prices and the overvalued exchange rates; they thus affected the position of the agricultural sector. In favourable years, the exchange rate led to the establishment of prices which annulled a large proportion of the farmers' profits. In unfavourable years, the new prices gave only slight relief, which in many cases was merely transitory. World prices directly affected IAPI, a marketing organization which at first made good profits, but later experienced losses that had to be financed by inflationary methods. Such losses were recorded in several years, but were particularly heavy in 1953 and 1954. (See table 44.)

Table 44. **Argentina: Losses of IAPI in marketing crop and livestock commodities**

(Millions of pesos)

	1953	*1954*
Crop commodities and by-products........	1,304	2,951
Livestock commodities and by-products.....	517	618
TOTAL	1,821	3,569

Source: Annual reports of IAPI.

These losses display a peculiar feature. They were incurred by an official institution which resorted to credit ı public banking institutions; these, in their turn, ined credit from the Central Bank, another official n. The inflationary pressure provoked by the creation his additional money supply meant that it was in fact the community that was ultimately obliged to bear the losses through inflation, while no effective benefits accrued to the farmer. The same is true of the subsidies which IAPI granted to various activities. (See table 45.)

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[8] Apart from recent *Economic Surveys*, see "The situation in Argentina and the new economic policy", *Economic Bulletin of Latin America, op. cit.*, pp. 26 *et seq.*

[9] There were exceptions, wool, for example.

Table 45. Argentina: IAPI subsidies to the private sector

(Millions of pesos at current prices)

Years	*Total*	*Sheep farming*	*Domestic meat consumption*	*Refrigeration plants*	*Domestic edible oil consumption*	*Flour mills*	*Others*
1949	143	2	69	8	23	35	6
1950	159	—	—	132	—	6	20
1951	322	2[a]	—	297	—	—	23
1952	321	—	—	264	—	32[b]	25
1953	363	2[a]	52[c]	309	—	—	—
1954	541	2[a]	60[c]	467	11	—	1

Source: Annual reports of IAPI.

[a] Paid to sheep herders.

[b] Subsidies for production and the industry.

[c] Exports of dairy products.

Two remarks are pertinent here. First, the advantages an apparently remunerative price or of a subsidy e to a large extent neutralized by the higher exchange es at which the very sectors benefiting from such meas- s were obliged to negotiate their purchases of imports. cond, IAPI's profit or loss was derived not only from exchange rate but also from the ratio between the rchase and sale prices of the products concerned.

The monetary overvaluation had a more direct effect producers of export goods for which there were no nimum official prices.[10]

This very brief review of Argentina's exchange system ows some conclusions to be drawn as to its fiscal as- cts. In the first place, profits from exchange differen- ls were incorporated into the ordinary revenue of the ate without being earmarked for any specific purpose. oreover, the profits obtained by IAPI, an official ency, were derived not only from currency overvalua- n, but also from negotiations carried out by this insti- te, including imports. Because the situation changed a result of world prices and demand, the profit disap- eared and the marketing of the harvests led to heavy sses for IAPI. The overvalued exchange rate for basic ports allowed more advantageous rates to be accorded minor exports, even if such rates were lower than ose of the real par value. Currency overvaluation fa- oured imports, but only in a few cases was the benefit nverted into an advantage for the consumer, since the rofit very frequently remained in the hands of middle- en and the whole system contributed to accelerated flation and a higher cost of living.

In favourable years, therefore, the agricultural sector as burdened with exchange taxation for the benefit of e State, of other exporting sectors, of middlemen deal- g with imports and, in only a few cases—such as fuels d newsprint, for example—of the consumer. The situa- on in recent years, when world prices have been low, as strengthened the role of exchange policy in taxation.

On the other hand, overvaluation has created a subsidy r imports of fuels and capital goods, which have absorbed a greatly increased share of aggregate imports during the last ten years.[11]

The exchange reform of 28 October 1955 sanctioned a sharp devaluation of the national currency, by raising the official rate to 18 pesos per dollar, and established a free market. The first of these measures was applicable to basic and other less important exports, as well as to essential imports; and the second to all other exports and imports.[12]

The official rate was thus placed on a more realistic level and, if it represents the dollar purchasing power of the peso, will abolish the taxation through the exchange rate which was formerly borne by exports. But another burden has appeared, which is more specifically in the nature of taxation; the Government has established a "retention" on the official rate, which varies from 10 to 25 per cent. There are thus five effective rates, the lowest "retention" affecting exports of grain, oilseeds and other less important products. Mining products, tanned hides and some fibres enjoy the full benefit of the official rate.

There are similar surcharges on certain imports, which in some cases, such as that of passenger cars, are extremely high.

Retentions from exporters and importers form the Economic Rehabilitation Fund, which is used to finance technological and economic improvements in agriculture and to pay whatever subsidies may have to be granted in order to mitigate the possible effects of the devaluation upon production costs.

It is clear that the fiscal repercussions of exchange policy are intensified by this latter part of the new system. The retentions and surcharges mentioned here in fact represent taxation. In some cases they affect the excess profits which may, at least over the short term, arise through currency devaluation, while in others they weigh upon the consumption of imported non-essential or luxury goods.

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[10] In some cases compensation was provided in the form of rect subsidies.

[11] Since the percentages of imports of these goods relate to a decreasing volume of aggregate imports, their contribution to industrialization has been slight. (See also the article mentioned in footnote 8.)

[12] For other aspects and details of the exchange reform in Argentina, see the article mentioned in footnote 8.

The funds obtained by these means are set aside for purposes closely linked to the promotion of economic development. Exchange facilities granted for the entry of foreign capital, in either physical or monetary form, are for a similar purpose. Foreign exchange from this source can be negotiated on the free market. Moreover, all obstacles to the remitting of profits or the repatriation of capital have been removed in the case of funds invested since 30 June 1955.

5. OTHER COUNTRIES

Except for those few instances where no exchange controls are in force—Peru, for instance—exchange systems in the other countries of the region share some features of those prevailing in the four countries just dealt with, which, as noted, are the most typical or representative.

The establishment of an exchange margin fund is common to the majority of the countries. In most cases, the fund is supplied from the differentials between multiple rates; in others, like that of Cuba, its resources accrue from taxes on certain foreign currency transactions. In some of the countries—Cuba, Nicaragua and Paraguay, for example—exchange resources enter the budget without being earmarked for any special purpose, although a share is devoted to the amortization of loans in Cuba and to public works in Nicaragua. In Colombia, 30 per cent of the so-called "coffee differential"—which was eliminated in 1955—entered the budget, while the remainder was transferred to the Federación de Cafeteros for investment in agricultural development.

As a consequence of the successive currency devaluations in 1948, 1949 and 1954, Mexico introduced taxes on exports aimed at mitigating the inflationary effects of devaluation and reducing the profits arising from it. From the fiscal angle, the tax in this case had the same effect as multiple exchange rates.

The revenue obtained by Ecuador from the exchange control system has been applied to a number of development objectives and also to subsidies. Between 1944 and 1953 funds entering the budget amounted to only 32 per cent of the full value collected under this item.

The revenue derived from the exchange margin in these other countries is by no means insignificant. Thus, in Cuba it amounted to 4 per cent of aggregate budget revenue in 1953-54, and, given the variety of taxes, revenue from exchange differentials compares favourably with that accruing from many of the other sources. In Nicaragua, exchange surcharges and differentials yielded larger proceeds than income tax in 1954-55. The export tax adopted in Mexico provided 939.1 million pesos in 1954 and was of great help in covering fiscal requirements swollen by devaluation. It is estimated that in Ecuador the receipts from taxes on import permits amounted to over 360 million sucres between December 1950 and the same month in 1953.

Methods used for control and for taxation are not always identical. But, as in the countries previously considered, exchange policy is carried out in these other cases through multiple rates and through export or import taxes in the form of exchange surcharges. In any event, these are all explicit or concealed ways of establishing exchange rate differentials and their adoption depends upon the ends in view. The classification of imports by categories, according to the extent to which they are essential, and the application of varying exchange rates are perhaps the most common features.

Differential treatment of exports, as a means to their diversification, has also appeared in all of these countries; trade policy has thus been obliged to take the position of the basic groups very carefully into account, and to adapt itself to fluctuations in world prices and markets. In this sense, the exchange problems of Colombia, for instance, are very similar to those of Brazil, since both countries export coffee. In 1951, Colombian coffee exports were negotiated at exchange rates lower than the official par value, but the reform in 1955 removed this burden, which had been modified on several occasions in the interim. Exchange policy in Colombia has also been combined with taxes on exports of the country's basic commodity, as in the case of Brazil, or with the fixing of minimum prices, as in Argentina.

Events in Colombia emphasize the fact that the exchange system has also been enlisted in the service of an import replacement policy, the most recent step in this direction being the stamp tax, which acts as an exchange surcharge that varies according to the category of the imports concerned.[13]

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[13] For a full discussion of Colombia's exchange policy, see chapter V of *The Economic Development of Colombia* (E/CN.12/365), to be published in the near future.

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